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BEFORE THE ARIZONA CORPORATION COMMISSION

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Arizona Corporation Commission
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IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASE IN ITS RATES AND CHARGES BASED THEREON.	Docket No. W-02113A-13-0118

NOTICE OF FILING

The Residential Utility Consumer Office hereby provides notice of filing the Direct Testimony of Jeffrey Michlik and David Parcell, in the above-referenced matter.

RESPECTFULLY SUBMITTED this 19th day of December, 2013.

Daniel W. Pozefsky
Chief Counsel

AN ORIGINAL AND THIRTEEN COPIES
of the foregoing filed this 19th day
of December, 2013 with:

Docket Control
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Phoenix, Arizona 85007

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BEFORE THE ARIZONA CORPORATION COMMISSION

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Commissioner
BRENDA BURNS
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IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY FOR A DETERMINATION OF THE FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASES IN ITS RATES AND CHARGES BASED THEREON.	DOCKET NO. W-02113A-13-0118

DIRECT

TESTIMONY OF

JEFFREY M. MICHLIK

PUBLIC UTILITIES ANALYST V

RESIDENTIAL UTILITY CONSUMER OFFICE

DECEMBER 9, 2013

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ATTACHMENTS

EXECUTIVE SUMMARY

Chaparral City Water Company ("CCWC" or the "Company") is an Arizona "C" Corporation. On February 1, 2012, EPCOR Water (USA) Inc. ("EWUS") acquired CCWC from American States Water Company. The Company currently serves residents in the Fountain Hills area; its principal place of business is 12021 N. Panorama Drive, Fountain Hills, Arizona. The Company is engaged in the business of providing water utility services in its certificated area in Maricopa County, Arizona. The Company served approximately 13,730 customers during the test year ended December 31, 2012.[1] The Company's current rates were approved in Decision No. 71308, dated December 21, 2009.

Rate Application:

The Company-proposed rates, as filed, produce total operating revenue of $12,156,013, an increase of $3,141,028 or 34.84 percent, over adjusted test year revenue of $9,014,985. The Company-proposed revenue will provide operating income of $2,783,253 and a 10.21 percent rate of return on its proposed $27,269,321 fair value rate base ("FVRB") which is its original cost rate base ("OCRB").

The Residential Utility Consumer Office ("RUCO") recommends rates that produce total operating revenue of $10,717,753 an increase of $1,636,808 or 18.02 percent, from the RUCO-adjusted test year revenue of $9,080,945. RUCO's recommended revenue will provide operating income of $2,154,337 and an 8.70 percent return on the $24,762,495 RUCO-adjusted FVRB and OCRB.

Declining Usage:

If the Commission is inclined to approve a declining usage adjustment, RUCO recommends the Company file an annual report by January 31st of each year in this docket showing the increase/decrease in water usage for each customer class using a calendar year starting with the 2013 information.

Other items:

System Improvement Benefit ("SIB") Mechanism:

RUCO continues to recommend denial of the SIB in its current form.

Sustainable Water Surcharge ("SWS") Mechanism:

RUCO recommends denial of the proposed SWS. In lieu of a SWS, RUCO recommends projecting the CAP M&I charges and capital costs (not related to the additional CAP allocation of 50 percent), and any under or over-collection will be deferred and trued-up in the next rate case.

If the Commission is inclined to recommend a CAP surcharge mechanism in this case, RUCO would recommend the following:

[1] Based on the Company's 2012 annual report.

1. That the Company's pro-forma adjustment SM-10 be removed, as the expense will flow through the adjustor mechanism.
2. That the CAP surcharge mechanism be similar to the one approved in the Vail Water Company settlement agreement, in which the Company had to put forth a plan of administration, and provide an example of how the CAP surcharge is calculated.
3. That the Commission include a component in the calculation for customer growth, to help off-set the CAP surcharge to ratepayers.
4. A further reduction to the Company's ROE is given consideration.
5. The establishment of a rate case expense recovery surcharge.

Low Income Program:

RUCO recommends the establishment of a low income program.

RUCO also recommends that the Company file a plan of administration that addresses how the low income program will operate in this docket, and provide an example(s) how the Company intends to fund the low income program (e.g. through a high block usage surcharge).

Plant Additions and Deletions:

RUCO recommends that EPCOR include in all future rate case applications (for all districts) plant schedules that include plant additions, retirements, and accumulated depreciation balances by year and by plant account number that reconcile to the prior Commission decision.

I. INTRODUCTION

Q. Please state your name, occupation, and business address.

A. My name is Jeffrey M. Michlik. I am a Public Utilities Analyst V employed by the Arizona Residential Utility Consumer Office ("RUCO"). My business address is 1110 West Washington Street, Suite 220, Phoenix, Arizona 85007.

Q. Briefly describe your responsibilities as a Public Utilities Analyst V.

A. In my capacity as a Public Utilities Analyst V, I analyze and examine accounting, financial, statistical and other information and prepare reports based on my analyses that present RUCO's recommendations to the Arizona Corporation Commission ("Commission") on utility revenue requirements, rate design and other matters. I also provide expert testimony on these same issues.

Q. Please describe your educational background and professional experience.

A. In 2000, I graduated from Idaho State University, receiving a Bachelor of Business Administration Degree in Accounting and Finance, and I am a Certified Public Accountant with the Arizona State Board of Accountancy. I have attended the National Association of Regulatory Utility Commissioners' ("NARUC") Utility Rate School, which presents general regulatory and business issues. I have also attended various other NARUC sponsored events.

I joined RUCO as a Public Utilities Analyst V in September of 2013. Prior to my employment with RUCO, I worked for the Arizona Corporation Commission in the Utilities Division as a Public Utilities Analyst for a little over seven years. Prior to employment with the Commission, I worked one year in public accounting as a

Senior Auditor, and four years for the Arizona Office of the Auditor General as a Staff Auditor.

Q. What is the scope of your testimony in this case?

A. I am presenting RUCO's analysis and recommendations regarding Chaparral City Water Company's ("Company") application for a permanent rate increase. I am also presenting testimony and schedules addressing rate base, operating revenues and expenses, revenue requirement, and rate design.

Q. What is the basis of your testimony in this case?

A. I performed a regulatory audit of the Company's application and records. The regulatory audit consisted of examining and testing financial information, accounting records, and other supporting documentation and verifying that the accounting principles applied were in accordance with the Commission-adopted NARUC Uniform System of Accounts ("USOA").

Q. How is your testimony organized?

A. My testimony is presented in six sections. Section I is this introduction. Section II provides a background of the Company. Section III is a summary of the Company's filing and RUCO's rate base and operating income adjustments. Section IV presents RUCO's rate base recommendations. Section V presents RUCO's operating income recommendations. Section VI presents RUCO's recommendations on other issues identified during our review.

II. BACKGROUND

Q. Please review the background of this application.

A. Chaparral City Water Company ("CCWC" or the "Company") is an Arizona "C" Corporation. On February 1, 2012, EPCOR Water (USA) Inc. ("EWUS") acquired CCWC from Arizona States Water Company. The Company currently serves residents in the Fountain Hills area; its principal place of business is 12021 N. Panorama Drive, Fountain Hills, Arizona. The Company is engaged in the business of providing water utility services in its certificated area in Maricopa County, Arizona. The Company served approximately 13,730 customers during the test year ended December 31, 2012.[2] The Company's current rates were approved in Decision No. 71308, dated December 21, 2009.

In addition, to owning CCWC, EWUS also owns the following water and wastewater districts in Arizona:

Agua Fria District
Anthem District
Havasu District
Mohave District
Paradise Valley District
Sun City District
Sun City West District
Tubac District

[2] Based on the Company's 2012 annual report.

III. SUMMARY OF FILING, RECOMMENDATIONS, AND ADJUSTMENTS.

Q. Please summarize the Company's proposals in this filing.

A. The Company-proposed rates, as filed, produce total operating revenue of $12,156,013, an increase of $3,141,028 or 34.84 percent, over adjusted test year revenue of $9,014,985. The Company-proposed revenue will provide operating income of $2,783,253 and a 10.21 percent rate of return on its proposed $27,269,321 fair value rate base ("FVRB") which is its original cost rate base ("OCRB").

Q. Please summarize RUCO's recommendations.

A. The Residential Utility Consumer Office ("RUCO") recommends rates that produce total operating revenue of $10,717,753 an increase of $1,636,808 or 18.02 percent, from the RUCO-adjusted test year revenue of $9,080,945. RUCO's recommended revenue will provide operating income of $2,154,337 and an 8.70 percent return on the $24,762,495 RUCO-adjusted FVRB and OCRB.

Q. What test year did the Company use in this filing?

A. The Company's rate filing is based on the twelve months ended December 31, 2012 ("test year").

Q. Please summarize the rate base adjustments addressed in your testimony.

A. My testimony addresses the following issues:

<u>Post-Test Year Plant</u> – This adjustment removes post-test year plant that has not been completed and is also not used and useful in the amount of $1,693,408. This adjustment also increases accumulated depreciation expense by $38,609 for Post-Test Year Plant using the half-year convention for depreciation expense.

<u>Customer Deposits</u> – This adjustment increases the customer deposits based on RUCO's use of a 13 month average, the result of which is an increase to customer deposits in the amount of $3,791.

<u>Removal of Deferred Central Arizona Project ("CAP") Maintenance and Industrial ("M&I") charges</u> – This adjustment removes deferred debits in the amount of $78,206 which are not used and useful.

<u>Removal of 24 Month Deferral of Allowance for Funds Used During Construction ("AFUDC") and Depreciation Expense</u> – This adjustment removes $607,898 of deferred AFUDC and Depreciation Expense.

<u>Cash Working Capital</u> - This adjustment applies to the cash working capital component of the Company's working capital allowance, and decreases cash working capital by $84,917.

Q. Please summarize the operating revenue and expense adjustments addressed in your testimony.

A. My testimony addresses the following issues:

<u>Reversal of Declining Usage Adjustment</u> – These adjustments reverse the effects of the Company's declining usage adjustment, and increase metered water sales by $65,960, purchased water by $13,196, fuel and power by $7,501 and chemicals by $1,476.

<u>Incentive Pay</u> – This adjustment reduces salaries and wages expense by $14,090 to recognize sharing of incentive costs at the local level for ratepayers and shareholders.

<u>Increase Purchased Water Expense</u> – This adjustment increases purchased water expense by $87,678 related to CAP M&I, Capital Charges, and Maricopa Water District ("MWD") charges in lieu of a Sustainable Water Surcharge ("SWS").

<u>Corporate Allocation Expense</u> – This adjustment reduces corporate allocation expenses by $139,155 to remove costs related to public relations and incentives at the corporate level.

<u>Conservation Expenses</u> – This adjustment decreases miscellaneous expense by $7,079 to remove conservation expenses that were not incurred in the test year.

<u>Tank Maintenance Expense</u> – This adjustment decreases maintenance expense by $202,184 to remove projected costs that are not known and measureable.

<u>Depreciation Expense</u> – This adjustment decreases depreciation expense by $121,036, based on RUCO's recommended adjustments.

<u>Property Tax Expense</u> – This adjustment decreases property taxes by $10,822 to adjust property taxes to RUCO's adjusted test year amount.

<u>Income Tax Expense</u> – This adjustment increases income taxes by $177,992 to adjust income taxes to RUCO's adjusted test year amount.

IV. RATE BASE

Fair Value Rate Base

Q. Did the Company prepare a schedule showing the elements of Reconstruction Cost New Rate Base?

A. No, the Company did not. The Company's filing treats the OCRB the same as the FVRB.

Rate Base Summary

Q. Please summarize RUCO's adjustments to the Company's rate base.

A. RUCO's adjustments to the Company's rate base resulted in a net decrease of $2,506,826 from $27,269,321 to $24,762,495 . This decrease was primarily due to RUCO's adjustments: (1) to post-test year plant and accumulated depreciation,

(2) retirement of transportation vehicles, (3) adjustments to customer deposits, (4) removal of deferred Central Arizona Project ("CAP") Maintenance and Industrial ("M&I") Charges, (5) removal of 24 Month deferral of Allowance for Funds used During Construction ("AFUDC") and depreciation expense, and (6) cash working capital, as shown on schedules JMM-3, and JMM-4.

Rate Base Adjustment No. 1 – Post-Test Year Plant and Accumulated Depreciation

Post-Test Year Plant

Q. Has the Company completed all of its post-test year plant that it requested in its application?

A. No, not at the date of this filing. Based on RUCO data request 4.01, the Company had completed and determined that $2,191,355 of its requested $3,884,763 is now used and useful, while the remaining $1,692,732 has yet to be completed and $676 is not used and useful (see Attachment A).

Q. Has RUCO also trued-up the post-test year plant?

A. Yes. For the Plant that was completed, placed into service, and is used and useful, RUCO has updated the Company's estimated costs to reflect the actual costs.

Q. What is RUCO's policy in regards to the inclusion of post-test-year plant?

A. RUCO's general policy is to consider post-test year plant that was placed into service within six months after the end of the test year.

Q. Has RUCO included post-test year plant that was completed within six months after the end of the test year and is used and useful?

A. Yes. In addition, at the date of this filing the Company has not updated its response to indicate that any additional plant has been completed after the first six months from the end of the test year.

<u>Post-Test Year Accumulated Depreciation</u>

Q. Did the Company make an adjustment to Post-Test Year Accumulated Depreciation under the half-year convention of depreciation?

A. No.

Q. Please explain the half-year convention of depreciation?

A. The half-year convention treats all utility plant placed in service during the year as placed in service in the midpoint of the year. Thus, depreciation expense is only calculated for half a year, in the year that the asset is placed into service.

Q. How does the half-year convention of depreciation expense affect the balance sheet plant accounts, or in regulatory accounting, the rate base?

A. A half-year of accumulated depreciation is also recorded as a contra asset to the plant that was placed into service.

Q. How does this apply to post-test year plant?

A. The adjustment assumes the post-test year plant items were placed into service, and thus a half year of accumulated depreciation is recorded.

Q. Have other larger water utility companies also utilized this methodology recently?

A. Yes. In Docket Nos. W-01445A-10-0517, W-01445A-11-0310, and W-01445A-12-0348, Arizona Water Company's witness Joel Reiker, Vice President of Rates and Revenue stated the following when talking about accumulated depreciation associated with post-test year plant:

"This adjustment assumes that these items were placed into service on December 31, 2010, and assumes for ratemaking purposes that the Company recorded a half-year of depreciation on these additions, consistent with standard utility plant accounting practices."[3]

Q. Is this methodology also consistent with what regulated electric utility companies in Arizona use for calculating accumulated depreciation associated with post-test year plant?

A. Yes. See docket E-04204A-12-0504.

Q. What adjustment did RUCO make?

A. RUCO applied the half-year convention of depreciation to all post-test year plant that was completed within the first six months after the test year, using the individual depreciation rates for each NARUC plant account.

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[3] See Docket No. W-01445-10-0517, page 12 of Mr. Reiker's application testimony.

Q. What is RUCO's recommendation?

A. RUCO recommends reducing Post-Test year plant by $1,693,408 from $3,884,763 to $2,191,355, and increasing accumulated depreciation expense by $38,609, as shown on schedules JMM-4 and JMM-5.

Rate Base Adjustment No. 2 – Retirement of Transportation Vehicles

Q. Did the Company's external auditors, during their review of the Company's financial statements for the year ended December 31, 2012 note that two vehicles were not retired from the Company's records?

A. Yes. Based on the Company's audited financial statements the auditors noted that two vehicles in the amount of $77,348 had been sold, but were not retired on the Company's books.

Q. What is RUCO's recommendation?

A. RUCO recommends removal of $77,348 from Plant Account 341 Transportation Equipment, along with the associated accumulated depreciation. As shown in schedules JMM-4 and JMM-6.

Rate Base Adjustment No. 3 – Customer Deposits

Q. Did RUCO make an adjustment to customer deposits?

A. Yes.

Q. What adjustment did RUCO make?

A. RUCO is increasing Customer Deposits by $3,791.

Q. Why did RUCO make this adjustment?

A. RUCO utilized a 13 month average to calculate an average customer balance. RUCO believes a 13 month average is more preferable to using a year-end amount as the year-end balance may differ significantly from the average balance, and thus provides a more realistic relationship between revenues, expenses and rate base.

Q. Has RUCO also made an adjustment to recognize the interest paid on the customer deposits?

A. No. Since the customer deposits consist solely of meter deposits, and no interest expense is paid on the meter deposits.

Q. What is RUCO's recommendation?

A. RUCO recommends increasing Customer Deposits by $3,791 from $1,950 to $5,741 as shown on schedules JMM-4 and JMM-7.

Rate Base Adjustment No. 4 – Removal of Deferred Central Arizona Project ("CAP") Maintenance and Industrial ("M&I") charges

<u>Additional CAP Allocation</u>

Q. In Decision No. 71308 (dated October 21, 2009), was the Company allowed to include in rate base an additional cap allocation of 1,931 acre feet ("af") of CAP water that the Company had acquired?

A. Yes, the Company was allowed to rate base $1,280,000 in account 303 Land and Land Rights.

Q. What was Staff's argument for allowing the full allotment in rate base?

A. That the CAP reallocation occurs infrequently and CAP water is over-subscribed.[4]

Q. Was the additional cap allocation fully used and useful at the time?

A. No.

Q. What were the consequences of including the additional CAP allocation in rate base for ratepayers in the last decision?

A. Ratepayers had to pay a return on a CAP allocation that was not at the time 100 percent used and useful, and are still paying for an additional CAP allocation that is not even 50 percent used and useful. It has also created generational inequities because current ratepayers are paying for future ratepayers through (growth) that comes onto the system.

Q. Can you provide an estimate of the impact on ratepayers?

A. Yes. The amount included in rate base in Decision No. 71308 in account 303 Land and Land Rights was $1,280,000, and the required rate of return on rate base approved in that decision was 7.52 percent, or roughly $96,256 or $8,021 per month. Assuming rates went into effect on or after January 1, 2010 through January 1, 2014, this would equate to 4 years or $385,024.

Even if we are generous, as will be explained shortly and assume that the Company used the maximum of 356 acre feet every year (which they did not), that would equate to 18.43 percent (i.e. 356/1,931) per year. This results in rate

[4] Docket No. W-02113A-07-0551, Decision No. 71308, page 10.

payers overpaying by $314,064 for an item that was rate based and only used a ***maximum*** of 18.43 percent in one year since the last rate case.

Q. In the last case RUCO advocated that no more than 35 percent should be rate based on the general rate making theory of used and useful?

A. Yes.[5]

Q. If ratepayers were charged for plant that was not fully used and useful and is still not used and useful now, shouldn't they get a refund?

A. In theory they should. However, in the prior Decision, the issue of the additional CAP allocation was not decided on a used and useful argument but rather on a prudency argument.

"Our determination is based on the Company's need to provide its customers continued access to adequate renewable water supplies and on the fact that CCWC acted prudently under the circumstances in the December, 2007, $1.28 million purchase of the additional CAP allocation."[6]

Deferral of CAP Municipal and Industrial ("M&I") and Capital charges

Q. Also, in Decision No. 71308, was the Company allowed to defer CAP charges related to its additional CAP acquisition?

A. Yes. In Decision No. 71308, the Company was authorized to include 50 percent of the M&I and Capital costs related to the additional purchase of 1,931 acre feet (AF) of CAP water in rates, and was authorized to defer the other 50 percent.

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[5] Ibid. page 15.
[6] Ibid. page 17.

Q. In the last rate case, how was the 50 percent split derived?

A. Based on Staff's engineering report:

"In its Engineering Report on the application, Staff found that approximately half the requested additional 1,931 acre-feet per year CAP allocation (966 acre-feet) would be used and useful within a five-year timeframe."[7]

Q. At the time did the previous owner of the Company agree with Staff?

A. Yes.

"The Company and Staff agree that the Company should be allowed recovery of 50 percent of the CAP M&I charges related to the additional CAP allocation, or $20,306, as an operating expense, based on Staff's position that only 50 percent of the additional CAP allocation is used and useful at this time, and that 50 percent of the charges should be deferred."[8]

Q. To be clear was this issue based on a used and useful argument or a prudency argument?

A. A used and useful argument.

Q. Does RUCO believe there is a difference?

A. Yes. Prudency and used and useful are different regulatory concepts.

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[7] Ibid. page 10.
[8] Ibid. page 23.

Q. Has the Company asked to rate base the remainder of the deferral of these charges in its application?

A. Yes.

Q. Was there a restriction placed on the time deferral period?

A. Yes. On page 25, of the Decision 31308 it stated:

"For the reasons provided by Staff, we agree that a definite timeframe should be placed on the deferral period, and find that under the circumstances of this case: a 48 month period is reasonable."

Q. Did the Company include 48 months or four years of deferred CAP M&I costs?

A. No, the Company included 60 months or an extra year in its calculation, and also proposes to amortize these costs over 60 months.

Q. What was the purpose of this deferral, as referenced on page 25 of the Decision?

A. *"To evaluate whether the Company is properly accounting for the deferral, and to also determine if all or a portion of the deferred charges are used and useful, and therefore, eligible to be placed in rates."*

Q. Has RUCO made a determination as to whether the Company is properly deferring these costs and whether all or a portion of the deferred charges are used and useful, and should be placed into rates?

A. Yes, RUCO has determined that the Company is properly deferring these costs. However, the Company is currently still using much less than 50 percent of its additional CAP allocation.

Q. How much of the additional CAP allocation (1,931 af) is currently being used?

A. Amazingly the Company claims it is currently using all of its additional CAP allocation.

Q. What question did RUCO pose to the Company in RUCO data request 5.09?

A. *"Q: <u>CAP Allocation</u> – In regards to the additional CAP allocation purchased in the last rate case of 1,931 acre feet, please answer the following questions:*

a. How much of the additional CAP allocation is used and useful?

b. In five years how much of the additional CAP allocation will be used and useful?

c. In what year does the Company estimate all of the additional CAP allocation will be used and useful?"

Q. What was the Company's response?

A. *"a) All of the additional CAP allocation is used and useful. Please refer to c) below.*

b) In five years all of the additional CAP allocation will continue to be used and useful. Please refer to c) below.

c) In 2006 Chaparral City Water Company ("CCWC") used 7,334 acre feet ("AF") of CAP water. This is approximately 356 AF above the original allocation of 6,978 AF. CCWC, like all water utilities, experiences regular variability in demand. This variability in demand over the last 10 years has been as much as 22.5 percent between the highest year's use (7,334 AF in 2006) and the lowest year's use (5,684 AF in 2008). This is due to factors such as weather, economics, changes in demand from both growth and conservation. Because of this variability and unpredictability in demand, it is important to have sufficient capacity to meet demand. When considering the historic variability of demand and the fact that future demand will also experience variability I would consider the additional CAP allocation to be used and useful each and every year.

CCWC water supply is dependent on CAP water, CCWC cannot raise and lower its CAP contract volume in response to swings in demand; water rights for CAP water are not handled that way. Instead, CAP water rights are allocated by the Arizona Department of Water Resources ("ADWR"), subjected to a process of noticing regarding the recommended ADWR allocations at the U.S. Department of the Interior, Bureau of Reclamation, and are subsequently contracted for with the Central Arizona Water Conservation District ("CAWCD"). CCWC's subcontract for CAP water is with CAWCD. This process has only occurred twice in the history of CAP water and is not expected to occur again for municipal priority water.

For additional information on the process please see my direct testimony."

Q. Does this make sense?

A. No. Regardless of the confusing response, the Company has used a ***maximum*** in 2007 of 356 acre feet above its original CAP allocation or a maximum of 18.43 percent (i.e. 356/1,931) of its additional CAP allocation.

Q. Is this far less than the Staff engineer report indicated in the last rate case?

A. Yes, according to the Staff engineer over half of the additional CAP allocation would be used in 5 years, not 18.43 percent.

Q. Is RUCO recommending that an additional 31.57 percent (i.e. 50 – 18.43), be removed from purchased water expense?

A. No. RUCO realizes that there needs to be some buffer for growth and customer demand, and is again being generous with its recommendation.

Q. Is RUCO opposed to allowing the Company to defer these costs until they can be included in rate base in a future rate case?

A. No. However, no carrying costs or cost of money should be accrued, given the current inequities currently placed on current ratepayers by having a CAP acquisition rate based that is fully not used and useful.

Q. What is RUCO's recommendation?

A. Consistent with Decision No. 71308, RUCO recommends the removal of $78,206 from the Company's deferred debits account, as shown on schedule JMM-8. In addition, the corresponding entry to eliminate the amortization of the deferred debits in the amount of $15,641 is shown on schedules JMM-19.

Rate Base Adjustment No. 5 – Removal of 24 Month Deferral of Allowance for Funds Used During Construction ("AFUDC") and Depreciation Expense

Q. Please explain the Company's proposal?

A. The Company proposes to defer AFUDC and depreciation expense related to plant in service for a period of 24 months. Put another way, the Company wants to include, as a deferred regulatory asset, an additional return of AFUDC on its plant that is in service but has not yet been rate based in a rate case, along with the associated depreciation expense.

Thus, the Company has asked for inclusion of a deferred debit in the amount of $607,898 as a pro-forma adjustment to its rate base.

Q. Did the Company also propose the same in its request for an accounting order?

A. Yes, in an accounting order filed October 2, 2012, the Company asked the Commission for approval of an accounting order to defer post-in-service AFUDC and associated depreciation and amortization expense up to 24 months starting on July 1, 2012.[9]

In addition, the Company also asked for the same ratemaking treatment for several of its other water and wastewater districts.

[9] See Docket No. W-20113A-12-0427.

Q. What is the source of this ratemaking treatment?

A. The Company in its accounting order filing cites to a Commission compliance report[10] in which it states staff recommended the following:

"Consideration of authorizing utilities to record and defer depreciation and a cost of money using an AFUDC rate on qualified plant replacements for up to 24 months after the in-service date to mitigate the effects of regulatory lag."[11]

Q. Was there a decision in that filing?

A. No. Both Staff and RUCO argued that the filing was premature and should be looked at in the context of a general rate case. The Company agreed and decided to pursue the issue of deferring AFUDC and depreciation expense separately for each district in the context of future rate cases. On July 2, 2013, the filing was administratively closed.

Q. Please explain AFUDC?

A. Construction work in progress ("CWIP") is generally not included in rate base, because it violates the used and useful principle. However, companies are allowed to earn a return, and include the financing cost as part of their plant that will be rate based in a future rate case through AFUDC.

As long as plant items are included in construction work in progress ("CWIP"), the Company may apply an AFUDC rate to the CWIP account.

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[10] See Docket Nos. SW-20445A-09-0077, W-02451A-09-0078, W-01732A-09-0079, W-20446A-09-0080, W-02450A-09-0081 and W-01212A-09-0082.

[11] See Docket No. W-20113A-12-0427, page 2.

Typically utilities apply the debt and equity components of their rate of return on rate base approved in their last rate case decision to the CWIP balance.

As soon as the plant goes into service, the AFUDC stops.

Q. So basically, the Company wants to defer an additional amount of AFUDC up to 24 months on plant that is in service, but not yet included in rate base.

A. Yes, plus the depreciation expense up to 24 months that is generated once the plant goes into service.

Q. Please explain the Company's calculation of depreciation expense?

A. Instead of specifically identifying plant account numbers and applying a specific depreciation rate to those plant accounts (e.g. Account No. 304 Structures and Improvements – 3.33 percent), the Company has chosen to use the composite rate which is a less accurate methodology for determining depreciation expense.

Q. Is the Company also seeking a System Improvement Benefit ("SIB") Mechanism in this case?

A. Yes.

Q. Do you believe it is Staff's opinion that a SIB can be used in conjunction with a 24 month deferral of AFUDC and depreciation expense?

A. I do not know what Staff's current position is, and I will let Staff speak to this issue.

I do however; know that Staff used this concept to develop its Sustainable Water Loss Improvement Program ("SWIP").

Q. Briefly describe the SWIP?

A. Staff developed the SWIP, during the Arizona Water Company - Eastern Group case, as an alternative to a Distribution System Improvement Charges ("DSIC"). Staff wanted an alternative that would not burden its already scarce resources or produce the mini-rate case phenomenon as will be described later.

The SWIP contained the following conditions:[12]

1. Applicable only to the Miami and Bisbee sub-systems;
2. Applicable only to transmission and distribution main replacements;
3. Allows deferral of depreciation expense on qualified plant replacements for up to 24 months[13] after the in-service date;
4. Allows recording and deferring a cost of money using its Allowance for Funds Used During Construction rate on qualified plant replacements for up to 24 months[14] after the in service date;
5. Depreciation and cost of money deferrals will be subject to full regulatory review for compliance with traditional ratemaking conditions (e.g., prudency, used and useful and excess capacity) in the Company's rate case subsequent to the in-service date of the associated plant;
6. Depreciation and cost of money deferrals will be subject to the following specific SWIP conditions:

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[12] See the Direct Testimony of Jeffrey M. Michlik, Docket No. W-01445A-11-0310, pages 35-36.
[13] Terminates before 24 months if rates become effective that include the qualified plant in rate base in the 24 month period.
[14] Terminates before 24 months if rates become effective that include the qualified plant in rate base in the 24 month period.

a) Maintenance of appropriate supporting records to correlate depreciation and cost of money deferrals with the associated plant;

b) Demonstration during its relevant rate case(s) (see condition No. 7) that the plant replacements contributed to a reduction in water loss; and

c) Whole or partial disallowances for deficiencies in "a" or "b"

7. Amortization of the allowed (i.e., net of any disallowances) combined depreciation and cost of money deferrals over 10 years. The purpose of this provision is to provide a continuous, 10-year incentive for the Company to reduce its water loss. Thus, the Company must continue to meet conditions "6a" and "6b" in each rate case over the 10-year amortization period to continue recovering the deferral amortizations.

Q. Early on did Staff answer the question as to whether a SWIP which is a AFUDC deferral could be used in conjunction with a DSIC?

A. Yes.

"Q. For clarification purposes is Staff offering both its recommended Sustainable Water Loss Improvement Program ("SWIP") and a Staff recommended DSIC?

A. No. Staff recommends the SWIP as discussed in my direct testimony. However, if the Commission is inclined to adopt a DSIC as opposed to the SWIP, Staff recommends adopting at least the conditions discussed above."[15]

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[15] See the Surrebuttal Testimony of Jeffrey M. Michlik, Docket No. W-01445A-11-0310, page 6.

Q. What was the result of the SWIP?

A. The SWIP was rejected by the Company, as it did not provide immediate cash flows for the Company. Under mounting pressure from the Commission, Staff developed a System Betterment Cost Recovery ("SBCR"), which was then transformed through settlement talks with the various water companies in Arizona into the current day SIB.

Q. So in essence the Company is requesting approval for two DSICs?

A. Yes and the Company claims the two are not mutually exclusive, ignoring the evolutionary history of the SIB.

Q. What is RUCO's recommendation?

A. Putting aside the fact that RUCO disagrees with the adoption of a SIB, RUCO recommends the removal of $607,898 from the Company's deferred debits account, as shown on schedule JMM-8. In addition, the corresponding entry to eliminate the amortization of the deferred debits in the amount of $23,586 is shown on schedules JMM-4 and JMM-9.

Rate Base Adjustment No. 6 – Cash Working Capital

Q. Is Cash Working Capital, just one component of the Company's working capital allowance?

A. Yes, the other components of the Company's working capital allowance are a required bank balance, materials supplies inventory, and prepayments.

Q. What basis did the Company use for its proposed cash working capital?

A. The Company's proposed cash working capital is based on a lead-lag study.

Q. What is a lead-lag study?

A. A Lead/Lag Study measures the average length of time between the provision of the Company's utility services to the customers, and the subsequent payment for those services by customers, known as a revenue lag (or lead); and the average length of time between when a Company incurs an expense, and when the Company makes the cash payment, known as an expense lead (or lag).

A comparison is then made between the revenue lag (or lead) and the expense lead (or lag), the total of which if positive, results in an addition to rate base to compensate the Company's investors for additional cash working capital investments it has made. If the total is negative, this results in a deduction from rate base to compensate other investors (i.e. ratepayers) for their cash working capital investments.[16]

Q. What has the Company proposed?

A. The Company has proposed a negative lead-lag total of $19,817, which results in a decrease to rate base to compensate ratepayers for their cash working capital investments.

Q. Does RUCO agree with all of the components included in the Company's lead-lag study?

A. No. Specifically the Company included rate case expense, and bad debt expense in their study, and omitted interest expense.

[16] Paraphrased from excerpts from Public Utility Working Capital by Carl W. Dabelstein, CPA.

Q. Why does RUCO remove these non-cash items in a lead-lag study?

A. Because there is no actual payment of cash. Rate case expense is usually amortized over a period of years; likewise there is no actual payment of bad debt expense in the current year.

Q. Have water utility companies in the past tried to leave out interest expense in their lead-lag studies?

A. Yes. In Decision No. 64282 (dated December 20, 2000) Arizona Water Company's proposal to exclude interest expense from its lead-lag study was denied. The Commission stated:

"The Company collects cash used to make interest payments prior to the interest due date and, during the time Arizona Water has possession of these funds, they are a source of cost-free cash that can be used by the Company until making payments to creditors. Therefore, in accordance with the NARUC methodology, Staff claims that its lead-lag study properly included interest expense."[17]

The Commission agreed that interest expense, which is a cash item available to the Company for payment to creditors prior to the interest due date should be included in a lead-lag study.

The interest expense component although not contested was included in Arizona Water Company's lead-lag study and approved in Decision Nos. 71845 (dated August 25, 2010), and 73736 (dated February 20, 2013).

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[17] See page 7 of the decision.

Q. For reference purposes have you included a lead-lag study conducted by UNS Electric, which contains the items of a lead-lag discussed above?

A. Yes, see Attachment B.

Q. What is RUCO's recommendation?

A. RUCO recommends removing non-cash items such as bad debt expense, and rate case expense, and including interest expense. The results of these adjustments, along with RUCO adjustments made to operating expenses are shown in schedule JMM-10 and results in a decrease of $84,917 from the Company's proposed amount of negative $19,817.

V. OPERATING INCOME

Operating Income Summary

Q. What are the results of RUCO's analysis of test year revenues, expenses, and operating income?

A. RUCO's analysis resulted in adjusted test year operating revenues of $9,080,945, operating expenses of $7,918,865 and operating income of $1,162,080, as shown on schedules JMM-11 and JMM-12. RUCO made nine adjustments to operating expenses.

Operating Income Adjustment No. 1 – Reversal of Declining Usage Adjustment

Q. Has the Company proposed a pro-forma declining usage adjustment?

A. Yes. The Company made a $65,960, reduction to its metered revenues generated by 3/4 inch through 3 inch residential customers, and corresponding adjustments to reduce purchased water expense by $13,196, fuel and power expense by

$7,501, and chemicals by $1,476. The net effect is an operating income reduction of $43,786 (i.e. $65,960-$13,196-$7,501-$1,476).

Q. What type of methodology did the Company use when it calculated a declining usage of 1.0531 percent for its residential customers?

A. The Company used a 12 month moving average in usage per residential customer for three calendar years 2010, 2011, and 2012 to derive a 1.0531 percent declining average.

Q. Does RUCO agree with the Company's methodology?

A. No, because it allows for data manipulation, as will be demonstrated below.

Q. From the Company's work papers can you provide the yearly average in usage per customer?

A. Provided below is the **yearly** average in usage per customer:[18]

2010	109,556
2011	107,056
2012	109,628

As can be clearly seen the yearly residential usage went down in 2011, but then rose again in 2012, and in fact it is an increase over the 2010 yearly residential usage.

[18] Reproduced from the Company's data

Q. What are the results if you use a 13 month moving average instead of a 12 month moving average?

A. The declining average is reduced from 1.0531 percent to 0.6832 percent.

Q. What happens if you use just 2 years 2011 and 2012 instead of three years?

A. The 12 month moving average is positive .0899 percent, and a 13 month moving average is positive .3483 percent.

Q. So what is your point?

A. Depending on the number of years the analyst includes in the analysis and whether the analyst uses a 12 or 13 month moving average greatly influence the usage results.

Further, RUCO does not agree with the Company's assumption that customers will continue to reduce consumption because the results are not known and measurable.

Q. Did Staff in a data request ask the Company to provide more data on the declining usage adjustment?

A. Yes, in response to Staff data request 4.2 the company responded by saying:

"The Company has not prepared these schedules for the period after the end of the test year through July 31, 2013 and this would be a very time-intensive process."

Q. What is RUCO's recommendation?

A. RUCO recommends reversal of the test year declining usage adjustment in the amount of $65,960, and reversal of the corresponding expense in the amount of $22,173 (i.e. $13,196 + $7,501+$1,476), as shown in schedules JMM-12 and JMM-13.

If the Commission is inclined to approve a declining usage adjustment, RUCO recommends the Company file an annual report by January 31st of each year in this docket showing the increase/decrease in water usage for each customer class using a calendar year starting with the 2013 information.

Operating Income Adjustment No. 2 – Incentive Pay

Q. Did RUCO make an adjustment to salary and wages?

A. Yes.

Q. What adjustment did RUCO make?

A. RUCO decreased salaries and wages by $14,090.

Q. Please explain why a 50 percent allocation to shareholders is appropriate for an achievement / incentive / bonus pay compensation programs.

A. In general, incentive compensation programs can provide benefits to both shareholders and ratepayers. The removal of 50 percent of the incentive compensation expense essentially provides for an equal sharing of such cost, and therefore provides an appropriate balance between the benefits attained by both shareholders and ratepayers. Both shareholders and ratepayers stand to benefit from the achievement of performance goals as they have been awarded to a number of the Company employees. In addition, there is no guarantee that the same award levels that have been included in the Company's proposed expenses in this rate case will be repeated in future years.

Q. Has the Commission authorized this 50 percent sharing in the past?

A. Yes. In Commission Decision No. 71623 (dated April 14, 2010), 50 percent of the incentive compensation expense was excluded from revenue requirements.

Further in Decision No. 68487 (dated February 23, 2006), page 18 stated the following:

"We believe that Staff's recommendation for an equal sharing of the costs associated with MIP compensation provides an appropriate balance between the benefits attained by both shareholders and ratepayers. Although achievement of the performance goals in the MIP, and the benefits attendant thereto, cannot be precisely quantified there is little doubt that both shareholders and ratepayers derive some benefit from incentive goals. Therefore, the costs of the program should be borne by both groups and we find Staffs equal sharing recommendations to be a reasonable resolution."

Q. What is RUCO's recommendation?

A. RUCO recommends sharing the $28,180 the Company has recorded as incentive pay, and reducing salaries and wages by $14,090 from $1,024,112 to $1,010,022 as shown on schedules JMM-11 and JMM-14.

Operating Income Adjustment No. 3 – Purchased Water Expense

Q. What is the basis of the Company's pro-forma adjustment for its purchased water?

A. Interestingly, the Company has included a pro-forma adjustment for future CAP costs absorbed in its purchased water expense using 2014 CAP rates.

Q. Has the Company also asked for a Sustainable Water Surcharge ("SWS")?

A. Yes, it appears the Company wants the best of both worlds.

Q. Why does the Company need to pro-forma future CAP costs and also have a SWS?

A. It doesn't, if the Company were granted an adjuster mechanism it would automatically recover any CAP M&I and capital charges.

Q. Is RUCO aware that the CAP water charges are continually rising?

A. Yes.

Q. How then can the Company recover its CAP M&I costs between rate cases?

A. Through a deferral of CAP costs that are examined in the Company's next rate case.

Q. So in lieu of a SWS, is RUCO opposed to projecting future CAP M&I, Capital, and MWD charges into the Company's purchased water rates, as the Company has already done?

A. No. More discussion of the Company's proposed SWS is included in the other items section of RUCO's testimony.

Q. What is RUCO's recommendation?

A. RUCO recommends adjusting the Company purchased water expense upward by $87,678 for CAP M&I charges and Capital charges by utilizing a five year average of charges from the CAP 2013 through 2018 rate schedule based (which was updated on June 6, 2013) on the Company's original CAP allocation of 6,978 a.f. ***plus one-half of the additional CAP allocation of 1,931 a.f.***, or 7,943.5 a.f. as shown in Schedule JMM-15.

Operating Income Adjustment No. 4 – Corporate Allocation expense

Q. Has RUCO received at the date of this filing all of its data requests from the Company involving Corporation Allocations?

A. No. The Company has yet to provide RUCO with its sub-ledgers for each corporate allocation cost pool, along with all invoices over $5,000. That being said, RUCO may recommend additional adjustments in its surrebuttal testimony.

Q. From its preliminary review of the information provided by the Company, what cost pools does RUCO believe should be removed?

A. The At-Risk Cost pool and Public and Government Affairs costs pool (which includes Corporate Communications, Operational Communications, EPCOR Community Essentials Council, Community Relations, and Corporate Communications).

Q. Please explain why?

A. The At-Risk Cost pool involves incentive programs at the corporate level that are allocated to EPCOR's utilities. The Government Affairs costs pool consists of programs that are related to maintaining community relationships. For example, the Company stated that EPCOR Community Essentials Council ("ECEC") meets quarterly to decide on EPCOR's donations to charitable organizations. The public expects that corporations will reinvest a portion of their earnings in the community, and doing so helps to enhance customers' perception of the corporation, thereby improving overall customer satisfaction. Both of which have nothing to do with the day to day operations of a water company, and ratepayers should not have to burden this cost.

Q. What is RUCO's recommendation?

A. RUCO recommends the removal of $139,155, from the Company's corporate allocation expense, from $500,300 to $361,175, as shown on schedules JMM-11 and JMM-16.

Operating Income Adjustment No. 5 – Removal of Water Conservation Program

Q. Did the Company propose a pro-forma adjustment to miscellaneous expense in the amount of $7,079 for its water conservation program?

A. Yes. The Company stated it had started a water conservation program post-test year, similar to what it has done in its other districts, and estimates the yearly costs to be $7,079.

Q. What type of programs or activities are included in the Company's water conservation program?

A. The Company stated in its application that

"The activities include making the residential home water audit kit and the residential home retrofit kit available. It will include a youth education component. Bill inserts and bill text messages will also be implemented, educating customers about water conservation. Conservation Staff will also be available to teach about water conservation and visit homes and HOAs to give presentations on water conservation."

Q. Is this program the same or similar to Best Management Practices ("BMPs") tariffs located on the Arizona Corporation Commissions Website?

A. Yes. In attachment A, RUCO has included a copy of two of these tariffs, the Residential Audit Program Tariff – BMP 3.1, and the Adult Education and Training Programs Tariff – BMP 2.1 (see Attachment C).

Q. But didn't the Company say it was opposed to filing BMPs tariffs with the Commission?

A. Yes. However, I don't fully understand why, if they are already required by the Arizona Department of Water Resources to file BMPs, it should be relatively easy to file a tariff with the Commission.

Q. What is the Commissions current policy on BMPs?

A. That is more of a conundrum. Early on the Commission was in support of BMPs for all size water utilities, the smaller water utilities were required to implement a few BMPs, while the larger size water utilities were required to implement several

BMPS, depending on size. However, as of lately the Commission's policy has been to approve BMPs only if the Company wants them.

Q. Has the Commission set a policy on the cost recovery of BMPs?

A. Yes. The Commission has allowed companies to recover the costs to implement BMPs, and has also allowed companies to defer BMPs costs between rate cases.[19]

Q. Has the Commission allowed water companies to defer water conservation programs that are not connected with BMPs?

A. Not to my knowledge.

Q. What is RUCO's recommendation?

A. RUCO recommends that water conservation program expense in the amount of $7,079 be removed, as shown in schedule JMM-17, because it was incurred after the test-year. If the Company wants to link the water conservation program to Commission approved BMPs and file BMPs with the Commission, then RUCO will not object to a deferral of these costs, consistent with other Commission decisions.

Operating Income Adjustment No. 6 – Tank Maintenance Expense

Q. Did the Company make a pro-forma adjustment to include tank maintenance expense of $202,184 in its application?

A. Yes.

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[19] Please see the Arizona Water Company cases cited above.

Q. What is the Company's proposal?

A. The Company has proposed a tank maintenance plan to cover the costs associated with the stripping, treating and coating of the tanks, over an 18 year period. The estimated cost of the 18 year plan is approximately $3,639,307 or $202,184 per year.

Q. Does RUCO agree with this proposal?

A. No. The major problem with this proposal along with the countless others which will be described below is the ***known and measureable*** standard. It is not known whether the tank maintenance will follow the schedule attached to Company witness Mr. Stuck's testimony. Nor is it measureable in that all the numbers are estimates, in that the costs have not already occurred or will occur before rates go into effect.

The length of the 18 year plan is also highly problematic. The further you move from a historical test year the greater the imbalances become between rate base, revenues, and expenses.

In Decision No. 71845, (dated August 25, 2010) beginning at page 26, line 26, the Commission stated:

"Despite the Company's claims, we do not believe there is any valid reason for treating tank maintenance expenses differently from other properly incurred costs. Although we recognize that these costs tend to be cyclical in nature, that fact alone does not justify requiring ratepayers to support the Company's accrual

account methodology that would allow recovery in this case based solely on estimates adjusted by an inflation factor."

The Commission made a similar finding in Decision No. 71410, (dated December 8, 2009), for Arizona American Water Company (now EPCOR Water of Arizona Inc.). Beginning at page 37, line 7 the Commission stated:

"We are not opposed to the Company instituting a 14-year interior coating and exterior painting program for its water tanks. However, we do not believe that it is necessary or reasonable to adopt the Company's proposal for advance funding of a Reserve for Tank Maintenance at this time. Because the tank maintenance expense reserve account balance proposed by the Company is not based on known and measurable Company expenditures, we find the normalization maintenance expenses proposed by Staff, which is based on a three year average of expenses for each district to be the more reasonable alternative. Staffs normalization adjustment will therefore be adopted for each of the six water districts."

Q. What is RUCO's recommendation?

A. RUCO recommends removing the tank maintenance expense by $202,184 as shown on schedule JMM-18.

Operating Income Adjustment No. 7 – Depreciation Expense

Q. Did RUCO make an adjustment to depreciation expense?

A. Yes.

Q. What adjustment did RUCO make?

A. As a result of adjustments made to plant in service, RUCO also adjusted the associated depreciation expense.

Q. What is RUCO's recommendation?

A. RUCO recommends decreasing depreciation expense by $121,036 from $2,014,048 to $1,893,012, as shown in Schedule JMM-19.

Operating Income Adjustment No. 8 – Property Tax Expense

Q. What method has the Commission typically adopted to determine property tax expense for ratemaking purposes for Class C and above water utilities?

A. The Commission's practice in recent years has been to use a modified Arizona Department of Revenue ("ADOR") methodology for water and wastewater utilities.

Q. Did RUCO calculate property taxes using the modified ADOR method?

A. Yes. As shown on Schedule JMM-20, RUCO calculated property tax expense using the modified ADOR method for both test year and RUCO-recommended revenues. Since the modified ADOR method is revenue dependent, the property tax is different for test year and recommended revenues. RUCO has included a factor for property taxes in the gross revenue conversion factor that automatically adjusts the revenue requirement for changes in revenue in the same way that income taxes are adjusted for changes in operating income.

Q. Has RUCO also made an adjustment to the property tax assessment ratio?

A. Yes. Based on House Bill 2001, RUCO has adjusted the property tax assessment ratio to 19.0 percent. The Company in its filing used a 20 percent assessment ratio.

Q. What does RUCO recommend for test year property tax expense?

A. RUCO recommends decreasing test year property tax expense by $10,822, from $251,038 to $240,216, as shown in schedule JMM-20.

Operating Income Adjustment No. 9 – Income Tax Expense

Q. Did RUCO make an adjustment to income tax expense?

A. Yes, based on RUCO's recommended revenue requirement.

Q. How did RUCO calculate income tax expense for the Company?

A. RUCO applied the statutory state and federal income tax rates to RUCO's taxable income. Income tax expenses for the test year and recommended revenues are shown on schedule JMM-21.

Q. Did RUCO change the State income tax rate from 6.968 percent to 6.5 percent?

A. Yes, RUCO reduced the state corporate income tax rate from 6.968 percent to 6.5 percent to comply with House Bill ("HB") 2001 that was signed into law by Governor Jan Brewer on February 17, 2011. As a result of the HB, RUCO has reduced the State corporate income tax rate in its gross revenue conversion factor.

Q. Please elaborate on the provision contained in HB 2001.

A. H.B. 2001 maintains the current State corporate income tax rate of 6.968% through December 31, 2013. Thereafter, H.B. 2001 reduces the rate as follows:

- 6.5 percent for taxable years beginning from and after December 31, 2013 through December 31, 2014
- 6.0 percent for taxable years beginning from and after December 31, 2014 through December 31, 2015
- 5.5 percent for taxable years beginning from and after December 31, 2015 through December 31, 2016
- 4.9 percent for taxable years beginning from and after December 31, 2016

Q. What adjustment does RUCO recommend for test year income tax expense for the Company?

A. RUCO recommends increasing test year income tax expense by $177,992 , from $389,412 to $567,404, as shown on schedule JMM-21.

VI. OTHER ISSUES

System Improvement Benefits ("SIB") Mechanism

Q. Explain the general concept of a SIB as proposed by the Company?

A. A SIB is a surcharge mechanism that enables the Company to implement a surcharge to recover the revenue requirement (depreciation and rate of return) of capital invested in certain items of plant between rate cases.

Q. What are some concerns presented by a SIB?

A. A primary concern is that a SIB alters the balance of regulatory lags. Some lags are beneficial to the Company, for example, growth in customers and recovery of depreciation expense between rate cases. Other lags, such as the depreciation and return costs for infrastructure improvements funded by investors between rate cases, are detrimental to the Company. Introducing a SIB reduces the lag time for recovery of the depreciation and return on investment causing the balance among the ratemaking tools to favor the Company to the detriment of ratepayers. A SIB also allows recovery of capital improvement costs outside of a rate case resulting in less scrutiny of its prudency and used and useful status.

Q. What are some of the benefits of a SIB?

A. Despite the detrimental aspects presented by a SIB, it also has benefits for the Company and its ratepayers. The primary benefits for the Company are the quicker recovery of depreciation and return costs for capital improvements and improved cash flow. As a result, the Company is encouraged to replace aging/deteriorating plant sooner and experience a reduction in costly water loss. In turn, ratepayers should receive improved service and reliability. A SIB also benefits ratepayers by producing more gradual changes in rates, and it may reduce the need for or frequency of future rate proceedings.

Q. Without going into great detail is it still RUCO's position that if utility companies are authorized adjuster mechanisms (e.g. SIB or CAP adjuster mechanism) between rate cases that reduces the regulatory lag, the Company's risk is decreased, and hence the Company's return on equity ("ROE") should also be decreased?

A. Yes.

Q. Can you summarize what has happened thus far with the development of the SIB?

A. Yes. During a Commission open meeting held on February 12, 2013, Commissioner Bitter Smith, offered an amendment that was subsequently adopted by the Commission in Decision No. 73736, in which the following was ordered:

"IT IS FURTHER ORDERED that this Docket shall remain open to allow the parties the opportunity to enter into discussions regarding AWC's DSIC proposal and other DSIC like proposals.

IT IS FURTHER ORDERED that interested parties shall be allowed the opportunity to request late intervention in this Docket for the specific and limited purpose of discussing Arizona Water Company's DSIC proposal, other DSIC like proposals, and the possibility of achieving a settlement/compromise on the two.

IT IS FURTHER ORDERED that requests to intervene shall be filed no later than February 20, 2013, and that the Hearing Division shall rule on the requests to intervene by February 28, 2013, and shall schedule a Procedural Conference no later than March 8, 2013, to set up a schedule to govern further proceedings in this matter.

IT IS FURTHER ORDERED that the parties may enter into settlement discussions any time after February 28, 2013.

IT IS FURTHER ORDERED that Staff should provide the Commission an update on the progress of negotiations no later than the Commission's Open Meeting of April 9 and 10, 2013."

What transpired next were several meeting between Staff, RUCO, and several intervenors.[20] On April 1, 2013, Staff filed a Settlement Agreement signed by all parties except RUCO and the City of Globe. A Recommend Order and Opinion ("ROO") was issued on May 28, 2013. The ROO was modified by the Commission in Decision No. 73938 dated June 27, 2013. Instead of the acronym DSIC a SIB which stands for System Improvement Benefits, was adopted.

On July 17, 2013, the Residential Utility Consumer Office ("RUCO") requested a rehearing of Decision No. 73938. RUCO requested rehearing on two issues: that the Commission should have reduced AWC's cost of equity ("COE") when the SIB mechanism was approved; and that the SIB mechanism does not qualify as an adjustor mechanism and is therefore illegal under Arizona law.

On August 5, 2013 RUCO was granted a rehearing by the Commission.

Q. What is the current status of the rehearing?

A. The hearing phase has concluded, and the parties to the SIB are in the process of writing their legal briefs.[21]

[20] The following were also interevenors that participated in Phase 2 of the Arizona Water Company case, Rio Rico Utilities, Inc. dba Liberty Utilities; EPCOR Water Arizona, Inc.; Global Water Utilities; Arizona Investment Council; the Water Utility Association of Arizona; and the City of Globe.
[21] See Docket No. W-01445A-11-0310.

Q. Was there any new information that came out of the rehearing on November 26, 2013?

A. Yes. Staff witness Steven M. Olea, Director of the Utilities Division admitted at the hearing that although he was not having buyer's remorse, he was concerned about the additional work load a SIB would put on his Staff, and suggested that if water utility companies could not provide Staff with information that was in a ready format that could be quickly reviewed, Staff would not recommend any SIBs going forward.[22]

Q. Does RUCO agree with Mr. Olea's assessment?

A. Yes.

Q. If the Commission keeps approving adjuster mechanisms, does this put additional strain on both Staff and RUCO resources?

A. Yes. In essence these adjuster mechanisms become mini-rate cases.

Q. Please elaborate.

A. For example, when there is an Arsenic Cost Recovery Mechanism ("ACRM") filing both Staff and RUCO review the Company's filing. The filing consist of several schedules, which must be reviewed in order to ensure that the schedules are correct, that the correct rates are being used, that the hundreds of invoices submitted to support the arsenic plant are correct, in Staff's case that a memo and recommended order be prepared, that the Company's objections are addressed, ***in essence a mini-rate case***.

[22] Arizona Corporation Commission Website, Hearings Archive 2013, W-01445A-11-0310, Arizona Water Company November 26, 2013.

So the point is that instead of evaluating the information once in the context of general rate case, you now have to evaluate these adjuster mechanisms several times between rate cases, the same would hold true for a SIB or CAP adjuster mechanism if approved by the Commission.

Q. Even though RUCO is opposed to a SIB in its current form, is it RUCO's belief that a SIB should be determined on a case by case basis?

A. Yes. As will be explained in the plant additions and deletions section that follows, if the Company cannot support its own plant records in this rate case, how can the Company support a SIB.

Q. What is RUCO's recommendation?

A. RUCO continues to recommend denial of the SIB in its current form.

Sustainable Water Surcharge ("SWS")

Q. Please explain the Company's proposal to implement a SWS?

A. The Company has also asked for a SWS to recover the cost of water purchased from the Central Arizona Project ("CAP"), and charges related to water storage with the Replenishment District and/or credits for water storage with MWD GSF.

Q. Please give some background on CAP.

A. Authorized as part of the Colorado River Basin Project Act (Pub. L. 90-537) in 1968, the CAP is a multi-purpose water project, which delivers water for irrigation, municipal and for industrial uses in central and southern Arizona. CAP Municipal and Industrial ("M&I") subcontractors of which the Company is one, have entered into CAP subcontracts with the Central Arizona Water Conservation District

("CAWCD") and the United States Secretary of the Interior, in which they obtain water allocations in acre feet from the Colorado River. The M&I fees recoup construction costs spent by CAP that is payable to the United States. The Company's payment of M&I fees to CAP assures that the Company's CAP allocation remains available to them. The Company's current CAP allocation is 8,909 (6,978 original plus additional CAP allocation of 1,931) acre feet. The annual M&I is payable in equal semi-annual installments.

When the Company actually takes delivery of CAP water allotted to them it pays an annual CAP Operation, Maintenance, and Replacement ("OM&R") expense in monthly payments.

Q. How has the Commission dealt with the issue of CAP costs previously using Arizona Water Company as an example?

A. The Commission in Decision No. 68302 (November 14, 2005)[23], distinguished between CAP water that was being delivered as used and useful and CAP water that was not being delivered. In that case, two golf courses took delivery of 279 acre feet of CAP water. The 279 acre feet of CAP water was deemed used and useful, and therefore the previously deferred M&I charges were included in rate base and amortized to expense over 20 years. Likewise the Commission in Decision No. 71845 (August 24, 2010)[24], 1,003 acre feet of CAP was deemed used and useful, and therefore the previously deferred M&I charges were included in rate base and amortized to expense over 20 years.

[23] Docket No. W-01445A-04-0650.
[24] Docket No. W-01445A-08-0440.

The CAP water that was not delivered and deemed not used and useful was deferred. Each year the M&I balance is brought forward reduced by amounts included in rate base, reduced by sales of non-potable CAP water pursuant to its NP-274 tariff. The customer is required to reimburse the Company for the related ongoing (not to be confused with *deferred*) M&I capital charges. Thus, when the Company sells non-potable CAP water pursuant to the NP-274 tariff, it expenses the related ongoing M&I capital charges to account 6022 (making them a pass-thru expense similar to sales taxes) instead of deferring them. The balance is then further reduced by CAP Hook-up fees collected, and increased by AFUDC on the balance. This process is projected every year until 2025, the Company then compares the projected amount to be recovered compared to the actual amount to be recovered in the rate case, and adjusts the Hook-up fee in the next rate case.[25]

Q. Does EWUS currently have other Districts that have CAP surcharges?

A. Yes.

Q. Does RUCO find it troubling that there are several methods utility companies are using to recover CAP surcharges?

A. Yes.

[25] The information was derived from Exhibits in the Company's rate case application.

Q. On page 19, of his application testimony, Company witness Mr. Jake Lenderking states that the SWS is similar to other CAP surcharges which the Commission has historically approved, but provides no citation(s). Mr. Michlik are you aware of any cases in which a CAP surcharge was approved?

A. Yes. As a result of a ***settlement agreement*** between Staff and Vail Water Company, Vail Water Company was allowed to implement a CAP surcharge.[26]

Q. What is a settlement agreement?

A. It is a negotiation between the parties in this case Staff and Vail Water Company, in which there is give and take on the respective parties' positions.

Q. Was it Staff's original position to approve a CAP surcharge adjuster mechanism?

A. No. The CAP M&I expenses were to be deferred, and a temporary CAP surcharge implemented to recover CAP delivery charges and wheeling costs, until the Company's next rate case.

Q. Since you were the analyst for Staff at the time, what was Staff's original position in that case?

A. Staff normalized the CAP Municipal and Industrial ("M&I") and CAP Capital charges by calculating the average over a five year period using information in CAP'S Final 2013 to 2018 Rate Schedule.

[26] See Docket No. W-01651B-12-0339, Decision No. 73995 dated July 30, 2013.

Staff increased the test year costs to account for the increases in CAP charges based on the average of the CAP rate schedule.

Q. Is this similar to what RUCO is recommending in this case?

A. Yes.

Q. What is RUCO's recommendation?

A. RUCO recommends denial of the proposed SWS. In lieu of a SWS, RUCO recommends projecting the CAP M&I charges and capital costs (not related to the additional CAP allocation of 50 percent), and any over or under collection will be deferred and trued-up in the next rate case.

Q. If the Commission were to approve a CAP surcharge in this case, what would be RUCO's recommendation?

A. If the Commission is inclined to recommend a CAP surcharge mechanism in this case, RUCO would recommend the following:

1. That the Company's pro-forma adjustment SM-10 be removed, as all the expense will flow through the adjustor mechanism.
2. That the CAP surcharge mechanism be similar to the one approved in the Vail Water Company settlement agreement, in which the Company had to put forth a plan of administration, and provide an example of how the CAP surcharge is calculated.
3. That the Commission include a component in the calculation for customer growth, to help off-set the CAP surcharge to ratepayers.
4. A further reduction to the Company's ROE is given consideration.
5. The establishment of a rate case expense recovery surcharge.

Q. Isn't it RUCO's generally philosophy to oppose adjuster and surcharge mechanisms?

A. Yes, when they do not benefit ratepayers. However, for far too long ratepayers have been subjected to one-sided adjuster mechanisms and surcharges promoted by the water industry and adopted by the Commission. At the very least, a few adjuster mechanisms or surcharges should be approved that benefit ratepayers. The establishment of a rate case expense surcharge would safeguard ratepayers from overpaying on the estimated rate case costs between rate cases.

Q. Please explain what you mean by the establishment of a rate case expense surcharge?

A. RUCO recommends an adjuster mechanism that would be similar to the one adopted in Decision No. 73573,[27] in which the Commission approved the following:

"We will therefore authorize Pima to implement a surcharge of $0.33 per customer for the water division, and a surcharge of $0.33 per customer for the wastewater division, with the surcharges remaining in place for either: (1) a period of 60 months, or (2) until Pima has collected $200,000 per division in rate case expense recovery, whichever comes first."

[27] Pima Utility Company Docket No. W-02199A-11-0329 and SW-02199A-11-0330, page 17.

Low Income Program

Q. Has the Company asked for a low income program to assist residential customers in its service area?

A. Yes. The Company wants to establish a program that is similar to its low income programs that it has already established in its other districts.

Q. What is RUCO's recommendation?

A. Even though, the Company's primary service area is Fountain Hills, RUCO believes that there are customers who could benefit from the program. Therefore, RUCO recommends the establishment of a low income program.

RUCO also recommends that the Company file a plan of administration that addresses how the low income program will operate in this docket, and provide an example(s) how the Company intends to fund the low income program (e.g. through a high block usage surcharge).

Plant Additions and Deletions

Q. Is it customary for Utility Companies to provide in their rate case applications, schedules supporting their plant additions and retirements for each plant account, dating back to the last rate case?

A. Yes. In fact it is part of the required schedule for smaller utilities using Staff's short form rate application.

Q. Are you aware of any A size utility companies not filing these schedules are part of their rate case application?

A. No.

Q. Did the Company provide a complete listing of all of its additions and deletions since its last rate case?

A. No. In response to Staff data request 3.28 in which Staff asked the following question:

"Refer to Schedules B-2 pages 3.2 through 3.5 and provide a list that breaks out the components and amounts that comprise the plant additions and deletions by year since the last Rate Case."

The Company responded by stating on August 8, 2013:

"We have plant additions and deletions from Jan 2011 through Dec 2012. See attached schedule labeled "STF GB 3.28 Plant Additions and Deletions.xls"."

Q. Did RUCO follow-up on Staff data request 3.28, on October 1, 2013?

A. Yes. Please see the Company's response to RUCO data request 3.01, dated October 11, 2013, and supplemented on October 24, and again on October 27, 2013 that is included in Appendix D.

Q. Did the Company's response prompt another RUCO data request on November 1, 2013?

A. Yes. Please see the Company's responses to RUCO data requests 7.02 through 7.06 dated November 12, 2013 contained in Appendix D.

Q. Did the Company's response to RUCO data requests 7.02 through 7.06 prompt yet again another RUCO data request on November 22, 2013?

A. Yes. Please see RUCO data request 8.01, and the responses to RUCO data request 8.01 contained in Appendix D.

Q. Has this delayed both RUCO and Staff's audit of the Company's plant?

A. Yes.

Q. What is RUCO's preliminary recommendation at this point in the process?

A. RUCO has not had sufficient time to review the Company's plant accounts, and unfortunately will have to make its recommendations in its surrebuttal testimony, and may ask for an extension or suspension of the time clock at a later date.

Q. Does RUCO have any further comments?

A. Yes. This is very troubling, that a class A utility does not have prior period records to support its plant. The Company is required to do its due diligence when it purchases an existing utility system, and this would include obtaining and maintaining the plant records. ***Frankly this is inexcusable.***

Q. Can this be avoided in future EPCOR filings?

Yes.

Q. What is RUCO's recommendation?

A. RUCO recommends that EPCOR include in all future rate case applications (for all districts) plant schedules that include plant additions, retirements, and accumulated depreciation balances by year and by plant account number that reconcile to the prior Commission decision.

Q. Is there anything else that can be done?

A. Yes. RUCO is aware that EPCOR asked for a fair value rate determination when it purchased Northern Mohave Valley Corporation,[28] RUCO agrees with the Company on this point that a fair value determination on rate base can be made during the sale of a certificate of convenience and necessity.

Q. Does this conclude your direct testimony?

A. Yes, it does.

[28] Docket Nos. W-02259A-13-0138 and W-01303A-13-0138.

Appendix 1

Qualifications of Jeffrey M. Michlik, CPA

EDUCATION:	Idaho State University Bachelor of Business Administration in Accounting and Finance, 2000
	Pennsylvania State University Master of Arts in Administration of Justice, 1993
	Pennsylvania State University Bachelor of Science in Administration of Justice, 1991
EXPERIENCE:	Public Utilities Analyst V Arizona Corporation Commission May 2006 – September 2013
	Senior Auditor Heinfeld, Meech & Co. April 2005 – April 2006
	Auditor II Office of the Auditor General August 2000 – December 2004

Resume of cases currently assigned to or completed while at the Arizona Corporation Commission

Arizona Public Service Company, Class Size A, Docket No. E-01345A-10-0474
Area(s) assigned: Accounting Order; presented Staff's recommendation regarding the Company's application for an Accounting Order.

A. Peterson Water Company, Class Size E, Docket No. W-02678A-06-0546
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Appaloosa Water Company, Class Size C, Docket Nos. W-03443A-10-0143 and W-03443A-11-0040
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Arizona-American Water Company, Class Size A, Docket No. W-01303A-09-0343 et al. Area(s) assigned: Rate Design; designed rates for all of Arizona-American's water and wastewater districts, on a stand-alone basis, partially consolidated basis, and on a consolidated basis; presented Staff's recommendations for this area.

Arizona-American Water Company, Class Size A, Docket No. W-01303A-10-0448 Area(s) assigned: Rate Design; designed rates for all three of Arizona-American's water and wastewater districts; presented Staff's recommendations for this area.

Arizona Water Company, Class Size A, Docket No. W-01445A-08-0440
Area(s) assigned: Rate Design; designed rates for 18 separate systems on a stand-alone basis and on a consolidated basis; presented Staff's recommendations for this area.

Arizona Water Company, Class Size A, Docket No. W-01445A-08-0440
Area(s) assigned: Step-2 Arsenic Cost Recovery Mechanism; presented Staff's recommendation regarding the Company's Application for Authority to implement a Step-2 Arsenic Cost Recovery Mechanism.

Arizona Water Company, Class Size A, Docket No. W-01445A-10-0517
Area(s) assigned: Revenue Requirement and Rate Base for three systems in the Company's Western Group; presented Staff's recommendations for these areas.

Arizona Water Company, Class Size A, Docket No. W-01445A-11-0092
Area(s) assigned: Accounting Order; presented Staff's recommendation regarding the Company's application for an Accounting Order.

Arizona Water Company, Class Size A, Docket No. W-01445A-11-0310
Area(s) assigned: Revenue Requirement and Rate Base for six systems in the Company's Eastern Group; presented Staff's recommendations for these areas.

Arizona Water Company, Class Size A, Docket No. W-01445A-12-0348
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design for two systems in the Company's Northern Group.

Clear Springs Utility Company, Class Size D, Docket Nos. W-01689A-11-0401 and W-01689A-11-0402
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

DS Water Company, Class Size D, Docket No. W-04049A-08-0339
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Eagletail Water Company, L.L.C., Class Size E, Docket Nos. W-03936A-11-0418 and W-03936A-12-0073
Area(s) assigned: Infrastructure Surcharge Mechanism.

ESARIN, Class Size C, Docket No. W-02031A-10-0168 et al.
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Heart Cab Company, Class Size E, Docket No. W-02355A-09-0275
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Johnson Utilities, Class Size A, Docket No. WS-02987A-08-0180
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Litchfield Park Water Company, Class Size A, Docket No. W-01427A-06-0807
Area(s) assigned: Accounting Order; presented Staff's recommendation regarding the Company's application for an Accounting Order.

Litchfield Park Service Company, Class Size A, Docket No. W-01427A-09-0104 et al.
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Litchfield Park Service Company, Class Size A, Docket Nos. W-01427A-11-0419 and SW-01428A-11-0420
Area(s) assigned: Waiver of Affiliated Interest Rules; presented Staff's recommendation regarding the Company's application for a Waiver of Affiliated Interest Rules.

Litchfield Park Service Company, Class Size A, Docket Nos. W-01427A-13-0043 and SW-01428A-13-0042
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design, presented Staff's recommendations for these areas.

Livco Water Company, Class Size D, Docket No. W-02121A-07-0506
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Montezuma Rimrock Water, LLC, Docket Nos. W-04254A-08-0361 and W-04254A-08-0361 and W-04254A-11-0323
Area(s) assigned: Capital Lease Determination; presented Staff's recommendation on whether the Company's lease was a Capital Lease or Operating Lease.

Naco Water Company, Class Size C, Docket Nos. W-02860A-05-0727 et al.
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Payson Water Company, Inc., Size D, Docket No. W-03514A-12-0008
Area(s) assigned: Water Augmentation Surcharge; presented Staff's opinion on whether the Company's Water Augmentation Surcharge was calculated correctly.

Picacho Water Improvement Corporation
Area(s) assigned: Emergency Rate Case, presented Staff's recommended temporary/interim rates for the Company.

Pineview Water Company, Class Size C, Docket No. W-01676A-08-0366
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Rio Rico Utilities, Inc., Class Size A, Docket No. WS-02676A-12-0196
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design.

Rulemaking RW-00000B-07-0051
Area(s) assigned: Rulemaking; provided Staff's input to the restructuring of the Administrative Code regarding Certificates of Convenience and Necessity.

Sahuarita Water Company, Class Size B, Docket No. W-03718A-09-0359
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design; presented Staff's recommendations for these areas.

Sun Leisure Estates, Class Size E, Docket No. W-02386A-08-0129
Area(s) assigned: Emergency Rate Case, presented Staff's recommended temporary/interim rates for the Company.

Sun Leisure Estates, Class Size E, Docket No. W-02386A-09-0308
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

Utility Source LLC, Class Size C, Docket No. WS-04325A-06-0303
Area(s) assigned: Revenue Requirement and Rate Base; presented Staff's recommendations for these areas.

Vail Water Company, Class Size B, Docket No. W-01651B-12-0339
Area(s) assigned: Revenue Requirement, Rate Base, and Rate Design.

Wayward Wind Wells, Class Size E, Docket No. W-20553A-08-0467
Area(s) assigned: Certificate of Convenience and Necessity; performed a financial analysis of the Company's application, and presented Staff's recommendations for a Certificate of Convenience and Necessity.

Wilhoit Water Company, Class Size D, Docket No. W-02065A-07-0312 et al.
Area(s) assigned: Revenue Requirement, Rate Base, Rate Design, and Financing; presented Staff's recommendations for these areas.

In addition, I have served as Advisory Staff to Commissioners and Administrative Law Judges.

Attachment A

Chaparral City Water Company
Post Test Year Plant Additions
Response to Data Request No. RUCO 4.01

Response to Data Request No. STF GB 3.2

PROJECT #	DESCRIPTION	Date Construction Began	Completed or Expected Completion	Ratepayer Benefit Period	Replace Existing Plant?	Actual Costs at the End of the Test Year	Actual Costs at 7/31/13	Final Cost	Complete	In Svc Date	Used & Useful	Not Complete
	[A]	[B]	[C]	[D]	[E]	[F]	[G]		a	b	c	d
170973,	Comprehensive Planning Study (Well 11 Restoration)	Oct-11	Jun-13	At in-service date	No							
270980,	Comprehensive Planning Study (Chloramination)	Jul-12	Jun-13	At in-service date	No	127,558	220,478	219,432	x	Jul-13	x	
270983	Comprehensive Planning Study	Nov-12	Jun-13	At in-service date	No							
170974	Well #10 Arsenic Treatment	Oct-11	Feb-13	At in-service date	No	793,374	1,014,949	1,069,580	x	Feb-13	x	
170970,	Reservoir #2 Rehabilitation	Jun-11	Apr-13	At in-service date	No			26,474	x	May-13	x	
170975,	Reservoir #2 Rehabilitation	Aug-12	Apr-13	At in-service date	No	295,860	692,236	643,947	x	Apr-13	x	
379070	Reservoir #2 Rehabilitation	Apr-13	Apr-13	At in-service date	No							
270975	Distribution System	Apr-12	Dec-12	At in-service date	No	53,577	66,964	66,964	x	Dec-12	x	
270976	Shea WTP Filter Media	Mar-12	Dec-12	At in-service date	Yes	59,369	73,035	73,035	x	Dec-12	x	
270981	IPT Deployment	Dec-12	Apr-13	At in-service date	No	150	44,932	45,351	x	Apr-13	x	
270982	Tools & Equipment	Nov-12	Dec-12	At in-service date	No	31,777	36,935	36,935	x	Dec-12	x	
270985	Lotus Reservoir 3	-	-	At in-service date	No	7,685	-	-				
270987	Crestview Reservoir 7	-	-	At in-service date	No	17,567	-	-				
270988	Vehicles	Dec-12	Dec-12	At in-service date	Yes	9,248	9,637	9,637	x	Dec-12	x	
279006	ESRI Project (GIS)	-	-	At in-service date	No	3,912	-	-				
379071	Shea WTP Improvements	Apr-13	Dec-13	At in-service date	No		688	676	x	N/A		
379072	2013 Recurring Projects - Facilities	-	Throughout 2013	At in-service date	No		-	-				
379101	Hydrants Replaced	Jan-13	Throughout 2013	At in-service date	Yes		10,523	67,834				x
379107	Services Replaced	Jan-13	Throughout 2013	At in-service date	Yes		81,675	530,835				x
379104	Meters Replaced	Jan-13	Throughout 2013	At in-service date	Yes		28,274	74,450				x
379670	Distribution Improvements	Jan-13	Throughout 2013	At in-service date	Some		1,453	1,453				x
379333	Misc system improvements	Feb-13	Throughout 2013	At in-service date	Yes		212,350	239,877				x
379102	Main breaks	Jan-13	Throughout 2013	At in-service date	Yes		93,715	129,353				x
379103	Manholes replaced	-	Throughout 2013	At in-service date	Yes		-	-				x
379105	Office & Ops Center	Apr-13	Throughout 2013	At in-service date	No		39,378	65,193				x
379106	Security	-	Throughout 2013	At in-service date	No		-	-				x
379108	Tools & Equipment	Apr-13	Throughout 2013	At in-service date	No		42,993	43,339				x
379109	Valves new	Feb-13	Throughout 2013	At in-service date	No		4,633	3,963				x
379110	Valves replaced	Feb-13	Throughout 2013	At in-service date	Yes		144,905	191,775				x
379331	Mains scheduled	Jun-13	Throughout 2013	At in-service date	Yes		53,290	67,133				x
379334	Scada & Firewall	May-13	Throughout 2013	At in-service date	No		10,240	42,892				x
379335	Vehicles	-	Throughout 2013	At in-service date	No		-	-				
379671	Electrical Annual Program	-	Throughout 2013	At in-service date	No		-	-				
	Developer Funded			At in-service date	No	212,867						
						1,612,944	2,883,283	3,650,127				

Attachment B

UNS Electric, Inc.
Cash Working Capital - Lead/Lag Study
Test Year Ended December 31, 2008

Line No.	Description	Pro Forma Test Year Amount	Revenue Lag Days	Expense Lag Days	Net Lag Days (Col. C - Col. D)	Lead/Lag Factor (Col. E/365)	Cash Working Capital Required (Col. F x Col. B)	Line No.
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	
	Operating Expenses							
	Non-Cash Expenses							
1	Bad Debts Expense	$764,063						1
2	Depreciation	17,810,236						2
3	Amortization	(3,575,014)						3
4	Deferred Income Taxes	3,384,947						4
	Other Operating Expenses							
5	Salaries and Wages (UNSE Direct Employees)	4,828,118	35.59	23.33	12.26	0.0336	$162,225	5
6	Incentive Pay (UNSE Direct Employees)	109,736	35.59	267.00	(231.41)	(0.6340)	($69,573)	6
7	Purchased Power	95,598,854	35.59	33.79	1.80	0.0049	$468,434	7
8	Transmission Other	8,082,997	35.59	40.67	(5.08)	(0.0139)	($112,354)	8
9	Meter Reading	839,177	35.59	33.67	1.92	0.0053	$4,448	9
10	Customer Records & Collection Expenses (excluding allocations)	1,389,213	35.59	34.94	0.65	0.0018	$2,501	10
11	Office Supplies and Expenses	505,643	35.59	50.89	(15.30)	(0.0419)	($21,186)	11
12	Injuries and Damages	309,105	35.59	70.52	(34.93)	(0.0957)	($29,581)	12
13	Pensions and Benefits	1,166,579	35.59	51.37	(15.78)	(0.0432)	($50,396)	13
14	Support Services - TEP (Direct Labor, Burdens, System Alloc.)	6,217,822	35.59	44.77	(9.18)	(0.0252)	($156,689)	14
15	Property Taxes	3,307,989	35.59	213.00	(177.41)	(0.4848)	($1,603,548)	15
16	Payroll Taxes	445,648	35.59	19.87	15.72	0.0431	$19,207	16
17	Current Income Taxes	(1,263,680)	35.59	41.42	(5.83)	(0.0160)	$20,219	17
18	Interest on Customer Deposits	14,499	35.59	182.50	(146.91)	(0.4025)	($5,836)	18
19	Other Operations and Maintenance	10,986,786	35.59	41.21	(5.62)	(0.0154)	($169,197)	19
20	Total Operating Expenses	$150,922,718						20
	Other Cash Working Capital Elements:							
21	Interest On Long-Term Debt	$6,716,282	35.59	78.97	(43.38)	(0.1188)	(797,894)	21
22	Revenue Taxes and Assessments	$12,430,745	35.59	49.43	(13.84)	(0.0379)	(471,125)	22
23	Total Cash Working Capital						($2,810,346)	23

Supporting Schedules
N/A

Recap Schedules
B-2, B-3

Attachment C

Company: ____________________ Decision No.: __________

Phone: ____________________ Effective Date: __________

Adult Education and Training Programs Tariff – BMP 2.1

PURPOSE

A program for the Company to implement adult education and training programs which promote water conservation and the need to conserve (Modified Non-Per Capita Conservation Program BMP Category 2: Conservation Education and Training 2.1: Adult Education and Training Programs).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. Programs shall include a combination of efforts to provide adults within the Company's service area with hands-on training. This shall include free workshops (held at least twice annually) that emphasize water efficient outdoor landscaping for homeowners and landscape professionals. Programs shall target homeowners, landscape professionals and non-residential users in the Company's service area.
2. The Company shall make available at no charge to its customers free pamphlets covering water conservation, reclaimed water, leak detection, irrigation, landscape design and low water use plants. This literature shall be available at Company offices during regular business hours, at model home sites, libraries, chambers of commerce, at the Company provided workshops, and at community events.
3. The Company shall make available Self-Audit Kits and Guides for homeowners in its service area.
4. The Company shall keep a record of the following information and make it available to the Commission upon request.
   a. A description of the adult conservation education process implemented.
   b. The number of customers reached (or an estimate).
   c. A description of the written material and hands-on training provided free to customers.
   d. Implementation costs of the adult education and training programs.

Company: ____________________________ Decision No.: ___________

Phone: ______________________________ Effective Date: __________

Residential Audit Program Tariff – BMP 3.1

PURPOSE

A program for the Company to promote water conservation by providing customers with information on performing water audits to determine conservation opportunities at their residence (Modified Non-Per Capita Conservation Program BMP Category 3: Outreach Services 3.1: Residential Audit Program).

REQUIREMENTS

The requirements of this tariff are governed by Rules of the Arizona Corporation Commission and were adapted from the Arizona Department of Water Resources' Required Public Education Program and Best Management Practices in the Modified Non-Per Capita Conservation Program.

1. The Company shall offer self-audit information.
2. The Company or designated representative shall provide all customers that request them with a self–audit kit.
3. The kit shall include detailed instructions and tools for completing the water audit including information on how to check their water meter. The audit kit shall include but not be limited to information on checking the following components: irrigation system, pool, water features, toilets, faucets and shower.
4. If requested, the Company shall assist the customer in a self-water audit and assist the customer in determining what might be causing high water usage as well as supply customer with information regarding water conservation and landscape watering guidelines. As part of the water audit, and if requested to do so by the customer, the Company shall confirm the accuracy of the customer meter (applicable meter testing fees shall apply).
5. The Company shall keep a record of the following information and make it available upon request.
   a. A description of the water conservation material provided in the kit.
   b. The number of kits provided to customers.
   c. Implementation costs of the Residential Audit Program.

Attachment D

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 3.01

Q: Plant Additions and Deletions - This is a follow-up to Staff data request 3.28 which asked the following:

"Refer to Schedules B-2 pages 3.2 through 3.5 and provide a list that breaks out the components and amounts that comprise the plant additions and deletions by year since the last Rate Case."

The Company responded as follows:

"We have plant additions and deletions from Jan 2011 through Dec 2012. See attached schedule labeled "STF GB 3.28 Plant Additions and Deletions.xls".

Please provide RUCO with the following information:

a. The balances of the plant accounts by line item (e.g. account 307 wells), and accumulated depreciation balances by plant account line item from the last rate case, Decision No. 71308, dated October, 21, 2009.
b. Please provide RUCO an excel schedule that shows the Plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010.
c. Please provide RUCO with a detailed excel transaction sub ledger for each plant addtion from b. above.

A: a. The balances of the plant accounts and accumulated depreciation by plant account line item from the last rate case, Decision No. 71308 is attached and labeled "RUCO 3.01 a. Plant and Accum Depr (Dec 71308).xls".

b. The Company is still waiting for a response to its request to Golden State Water Company for assistance in providing the plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010. This information will be provided as a supplement to this response as soon as it is received.

c. The Company is still waiting for a response to its request to Golden State Water Company for assistance in providing the subledger detail for each plant addition requested in b. above. This information will be provided as a supplement to this response as soon as it is received.

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 3.01 Subparts b. & c. 1st Supplement

Q: Plant Additions and Deletions - This is a follow-up to Staff data request 3.28 which asked the following:

"Refer to Schedules B-2 pages 3.2 through 3.5 and provide a list that breaks out the components and amounts that comprise the plant additions and deletions by year since the last Rate Case."

The Company responded as follows:

"We have plant additions and deletions from Jan 2011 through Dec 2012. See attached schedule labeled "STF GB 3.28 Plant Additions and Deletions.xls".

Please provide RUCO with the following information:

a. The balances of the plant accounts by line item (e.g. account 307 wells), and accumulated depreciation balances by plant account line item from the last rate case, Decision No. 71308, dated October, 21, 2009.
b. Please provide RUCO an excel schedule that shows the Plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010.
c. Please provide RUCO with a detailed excel transaction sub ledger for each plant addtion from b. above.

A: b. The plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010 are summarized in the attached file labeled "RUCO 3.01 b. & c. CCWC Plant Data 2007-2010.xlsx".

c. The subledger detail for each plant addition is included in the file labeled "RUCO 3.01 b. & c. CCWC Plant Data 2007-2010.xlsx" provided in response to subpart b. above.

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 3.01 Subparts b. 2nd Supplement

Q: Plant Additions and Deletions - This is a follow-up to Staff data request 3.28 which asked the following:

"Refer to Schedules B-2 pages 3.2 through 3.5 and provide a list that breaks out the components and amounts that comprise the plant additions and deletions by year since the last Rate Case."

The Company responded as follows:

"We have plant additions and deletions from Jan 2011 through Dec 2012. See attached schedule labeled "STF GB 3.28 Plant Additions and Deletions.xls".

Please provide RUCO with the following information:

a. The balances of the plant accounts by line item (e.g. account 307 wells), and accumulated depreciation balances by plant account line item from the last rate case, Decision No. 71308, dated October, 21, 2009.
b. Please provide RUCO an excel schedule that shows the Plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010.
c. Please provide RUCO with a detailed excel transaction sub ledger for each plant addtion from b. above.

A: b. The plant additions and deletions by plant account for the prior years 2007, 2008, 2009, and 2010 are summarized in the attached file labeled "RUCO 3.01 b. & c. CCWC Plant Data 2007-2010 2nd Supp.xlsx". This file consists of 2 tabs labeled "2007 – 2012 Summary" and "Rollforward". The 2007 – 2012 Summary tab sets for the annual additions, retirements, and adjustments to plant in service for the years 2007 through 2012 (2011 and 2012 have been included for your convenience.

The adjustments to the original cost plant in service arising from the Commission's Decision No. 71308 issued October 21, 2009 have been highlighted as they were recorded in 2009 upon receipt of the Commission's decision.

Any differences in the computed plant balances by year and the ACC Annual Reports have been reconciled and appear to be classification-only differences.

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 3.01 Subparts b. 2nd Supplement

The Rollforward tab summarizes additions, retirements, and adjustments as are shown on the 2007 – 2012 Summary tab, but also includes the authorized original cost plant balances. It appears from this analysis that the previous owners were diligent in insuring that the plant balances that were recorded on the books of Chaparral City Water Company at May 31, 2011 at the time of the sale to EPCOR Water properly reflected all of the adjustments that were ordered by the ACC in Decision No. 71308.

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 7.02

Q: Plant Additions and Deletions – This is a follow-up data request to the supplemental information provided by the Company to RUCO data request 3.1. Please provide the following information:

a. Please explain the various highlighted cells on the rollforward excel tab in the RUCO 3.01 b. and c. CCWC Plant data 2007 – 2010 2nd Supp excel worksheet (e.g. the ending balance in 2007 for account 305 collecting and impounding reservoirs in the amount of $6,548 is highlighted in blue)?
b. Explain and reconcile the differences between the Company's year end balances for each plant account line item and those submitted to the Arizona Corporation Commission ("ACC") for each year (e.g. account 311 pumping equipment ending balance December 2008 $3,472,801, 2008 ACC annual report $5,278,130 difference $1,805,329)?
c. Please explain why the Company believes its recalculated plant numbers for each plant account by year should be used instead of the plant numbers that appear in the annual reports submitted to the ACC?
d. Please explain why there is no activity in account 309 supply mains until 2011 when $2,201,526 is reported in the 2011 ACC annual report.
e. Please explain why the Company removed the $2,201,526 in supply mains in its recalculation of plant additions and deletions?

A: a. The highlighted cells are color coded to reflect reporting differences between the plant account distribution used in the CCWC 2006 test year rate case and the rollforward year over year of plant additions, retirements and adjustments. When all of the same colored highlights are added together, the result is $0 which means it is a reporting difference only.

For instance, in 2007 CCWC had a balance of $6,548 in Account 305-Collecting and Impounding Reservoirs, but for reporting purposes, Account 305 was reported as Account 330-Distribution Reservoirs & Standpipes. Also in 2007, the balance in Account 347-Miscellaneous Equipment of $329,385, was reported in Account 339-Other Plant & Misc. Equipment.

Likewise, for the year 2008, the $6,548 balance in Account 305-Collecting and Impounding Reservoirs was reported in two accounts: 1) $5,252 in Account 307-Wells, and 2) $1,295, the remainder, reported in Account 330-Distribution Reservoirs & Standpipes. Also, the balances in Account 347-

Miscellaneous Equipment of $329,385, and $1,475,943 in Account 339-Other Plant & Misc. Equipment totaling $1,805,329 were reported in Account 311-Pumping Equipment. The Power Operated Equipment balance (Account 345) of $18,396 was reported as Account 343-Tools, Shop & Garage Equipment.

In 2009, the highlighted values reflect the same reporting classifications as 2008 except that the Account 305-Collecting and Impounding Reservoirs of $6,548 is reported in one account: 1) $6,547 in Account 330-Distribution Reservoirs & Standpipes.

In 2010, the same accounts as in prior years have been reclassified for reporting purposes, however, the amounts have changed to reflect the additions to the accounts during 2010. To recap, the $6,548 balance in Account 305-Collecting and Impounding Reservoirs was reported in Account 307-Wells, the balances in Account 347-Miscellaneous Equipment of $380,435 ($329,385 + $38,743 of additions), and $1,444,950 in Account 339-Other Plant & Misc. Equipment totaling $1,825,386 were reported in Account 311-Pumping Equipment. The Power Operated Equipment balance (Account 345) of $18,396 was still reported as Account 343-Tools, Shop & Garage Equipment in 2010.

In 2011 when EPCOR purchased CCWC, additional reporting classifications were made. $16,514 of Account 304-Structures & Improvements were reported as Account 320-Water Treatment Plant, $3,207,220 of Account 330-Distribution Reservoirs & Standpipes were reported as Account 305-Collecting and Impounding Reservoirs of $1,005,693 and Account 309 – Supply Mains of $2,201,526. The reporting differences in Pumping Equipment (Account 311), Other Plant & Misc. Equipment (Account 339), and Miscellaneous Equipment (Account 347) continued in 2011.

b. Chaparral City Water Company, under the ownership of EPCOR water is unable to "explain" the differences, but can see from the comparison of the rollforward that the Plant in Service ties in total to the reported amounts in Golden States Water Company's filed annual reports for CCWC.

c. The test year plant balances on Schedule E-5 are consistent with the amounts reflected in the 2012 Annual Report except for Account 347000-Other General Plant with an ending balance of $41,221 which should have been included in Account 339500-Other Transmission & Distribution Plant. This was an oversight when linking the schedule to the supporting file as there was a notation that the value should be included in account 339500.It is difficult to say with any certainty, why there are reclassification differences in the intervening years due to the change in ownership. Oftentimes, the responsibility for preparing the annual report may change year over year and when the accounting system is not maintained on a NARUC basis, one employee may roll the accounts up differently than another. When EPCOR purchased CCWC in June 2011, the assets were classified in the manner in which they are presented in this application and they appear to be relatively similar to the reporting when Golden States had ownership with consistent differences.

d. I cannot say with any certainty why supply mains were not reflected in the annual report for CCWC prior to the purchase by EPCOR in 2011. In response to data request number STF GB 3.28, tab labeled "Detailed Cost – Dec. 31, 2010", there were clearly $2,201,526 in assets purchased prior to 2010 that were classified as Supply Mains as reflected in the table below.

Asset #	Class Description	Description	Acquired date	Cost
51850	Supply Mains	Cap Plant (Supply Main)	31-Dec-86	337,653.63
51849	Supply Mains	Bureau of reclamation plant	31-Mar-87	1,749,900.00
51847	Supply Mains	Supply Main 1987	31-Dec-87	17,482.04
51848	Supply Mains	Supply Main 1989	31-Jan-89	14,257.57
65641	Supply Mains	CLA-VAL 6" Class 150 Flanged	30-Apr-07	9,003.06
65642	Supply Mains	CLA-VAL 1 1/2"Class300Threaded	30-Apr-07	3,700.90
65643	Supply Mains	CLA-VAL 1 1/2"Class300Threaded	30-Apr-07	3,517.93
65914	Supply Mains	Transmission main	30-Jun-07	45,104.85
66565	Supply Mains	12" transmission main	30-Mar-08	20,905.68
Total				2,201,525.66

e. The schedules provided in response to RUCO 3.01 b. and c. for the years 2007 – 2010 were created from information provided by Golden States

Water Company to respond to RUCO's data request for plant information prior to the purchase by EPCOR in June of 2011. The information provided by Golden States was compared to their annual reports filed with the Arizona Corporation Commission ("ACC") to insure there was some consistency in the data but is not information that EPCOR created on its own. For purposes of this case, the Company relies on the test year data filed in its standard filing requirements which is supported by continuing property records at December 31, 2010 which included the adjustments adopted by the ACC in the last CCWC rate case.

COMPANY: CHAPARRAL CITY WATER COMPANY
DOCKET NO: W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 8.01

Q: Plant Additions and Deletion Invoices - This is a follow-up to RUCO data request 7.04 in which RUCO asked the following question:

"Please provide the support (i.e. invoices), for all plant additions over $5,000 since the Company's last rate case. The invoice amounts should trace and tie to the excel spreadsheet detail provided in data request 7.03."

The Company responded by stating:

"An information request has been sent to Golden States Water Company for this information and this request will be supplemented when a response has been received."

Thank you for the information you provided, however it is not fully responsive to RUCO's data request. RUCO needs this information to prepare its testimony. At this date, the Company has not provided RUCO with any invoices to support their plant. In the event that this information is not provided in a timely manner, the result maybe denial of some or all the plant requested.

Please provide the support (i.e. invoices), for all plant additions over $5,000 in which the Company is in possession of since it acquired Chaparral City Water Company (i.e. 2011 and 2012 additions) from Golden States Water Company.

In addition, please provide an improved detailed sub-ledger (the Company's attached excel response to Staff data request 3.28 is confusing and not in an accessible format), for each plant addition recorded by the Company in year 2011 and 2012. The plant addition sub-ledgers should reconcile to the amounts presented in the Company's response to RUCO data request 3.01 (e.g. 2012 plant addition account 331 Transmission and Distribution Mains in the amount of $977,835).

The invoice amounts should trace and tie to the excel sub-ledger detail requested. If not please reconcile the differences.

<u>**COMPANY:**</u> CHAPARRAL CITY WATER COMPANY
<u>**DOCKET NO:**</u> W-02113A-13-0118

Response provided by: Sheryl L. Hubbard
Title: Director, Regulatory & Rates

Address: 2355 W. Pinnacle Peak Road, Suite 300
Phoenix, AZ 85027

Company Response Number: RUCO 8.01

A. Invoices in support of plant additions over $5,000 that Chaparral City Water Company has incurred since it was acquired from American States Water Company are summarized in the attached file labeled "RUCO 8.01 CCWC Capital Invoices Jun 2011 – Dec 2012.xlsx".

An improved detailed sub-ledger Plant Additions & Deletions.xlsx" summarizing each plant addition recorded by the Chaparral City Water Company from June 2011 through December 2012 remains to be provided. A reconciliation of this request to RUCO 3.01 is in progress.

SCHEDULES

Chaparral City Water Company
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

Schedule JMM-1

REVENUE REQUIREMENT

LINE NO.	DESCRIPTION		(A) COMPANY FAIR VALUE		(B) RUCO FAIR VALUE
1	Adjusted Rate Base	$	27,269,321	$	24,762,495
2	Adjusted Operating Income (Loss)	$	889,596	$	1,162,080
3	Current Rate of Return (L2 / L1)		3.26%		4.69%
4	Required Rate of Return		10.21%		8.70%
5	Required Operating Income (L4 * L1)	$	2,783,254	$	2,154,337
6	Operating Income Deficiency (L5 - L2)	$	1,893,658	$	992,257
7	Gross Revenue Conversion Factor		1.6587		1.6496
8	Required Revenue Increase (L7 * L6)	$	3,141,028	**$**	**1,636,808**
9	Adjusted Test Year Revenue	$	9,014,985	$	9,080,945
10	Proposed Annual Revenue (L8 + L9)	$	12,156,013	$	10,717,753
11	Required Increase in Revenue (%)		34.84%		18.02%

References:
Column (A): Company Schedule A-1
Column (B): Staff Schedules JMM-3 and JMM-11

Chaparral City Water Company
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

Schedule JMM-2

GROSS REVENUE CONVERSION FACTOR

LINE NO.	DESCRIPTION	(A)	(B)	(C)	(D)
	Calculation of Gross Revenue Conversion Factor:				
1	Revenue	100.0000%			
2	Uncollecible Factor (Line 11)	0.5492%			
3	Revenues (L1 - L2)	99.4508%			
4	Combined Federal and State Income Tax and Property Tax Rate (Line 23)	38.8293%			
5	Subtotal (L3 - L4)	60.6214%			
6	**Revenue Conversion Factor (L1 / L5)**	1.649581			
	Calculation of Uncollecttible Factor:				
7	Unity	100.0000%			
8	Combined Federal and State Tax Rate (Line 23)	38.2900%			
9	One Minus Combined Income Tax Rate (L7 - L8)	61.7100%			
10	Uncollectible Rate	0.8900%			
11	Uncollectible Factor (L9 * L10)	0.5492%			
	Calculation of Effective Tax Rate:				
12	Operating Income Before Taxes (Arizona Taxable Income)	100.0000%			
13	Arizona State Income Tax Rate	6.5000%			
14	Federal Taxable Income (L12 - L13)	93.5000%			
15	Applicable Federal Income Tax Rate (Line 55)	34.0000%			
16	Effective Federal Income Tax Rate (L14 x L15)	31.7900%			
17	Combined Federal and State Income Tax Rate (L13 +L16)		38.2900%		
	Calculation of Effective Property Tax Factor				
18	Unity	100.0000%			
19	Combined Federal and State Income Tax Rate (L17)	38.2900%			
20	One Minus Combined Income Tax Rate (L18-L19)	61.7100%			
21	Property Tax Factor	0.8740%			
22	Effective Property Tax Factor (L20*L21)		0.5393%		
23	Combined Federal and State Income Tax and Property Tax Rate (L17+L22)			38.8293%	
24	Required Operating Income	$ 2,154,337			
25	AdjustedTest Year Operating Income (Loss)	1,162,080			
26	Required Increase in Operating Income (L24 - L25)		$ 992,257		
27	Income Taxes on Recommended Revenue (Col. [E], L52)	$ 1,183,082			
28	Income Taxes on Test Year Revenue (Col. [B], L52)	567,404			
29	Required Increase in Revenue to Provide for Income Taxes (L27 - L28)		615,678		
30	Recommended Revenue Requirement	$ 1,636,808			
31	Uncollectible Rate (Line 10)	0.8900%			
32	Uncolllectible Expense on Recommended Revenue (L30*L31)	$ 14,568			
33	Adjusted Test Year Uncollectible Expense	$ -			
34	Required Increase in Revenue to Provide for Uncollectible Exp. (L32-L33)		14,568		
35	Property Tax with Recommended Revenue	$ 254,521			
36	Property Tax on Test Year Revenue	240,216			
37	Increase in Property Tax Due to Increase in Revenue (L35-L36)		14,306		
38	Total Required Increase in Revenue (L26 + L29 + L34 + L37)		$ 1,636,808		
		Test Year		RUCO Recommended	
	Calculation of Income Tax:				
39	Revenue	$ 9,080,945	$ 1,636,808	$ 10,717,753	
40	Operating Expenses Excluding Income Taxes	$ 7,351,461		$ 7,380,334	
41	Synchronized Interest (L56)	$ 247,625		$ 247,625	
42	Arizona Taxable Income (L39 - L40 - L41)	$ 1,481,860		$ 3,089,795	
43	Arizona State Income Tax Rate	6.5000%		6.5000%	
44	Arizona Income Tax (L42 x L43)	$ 96,321		$ 200,837	
45	Federal Taxable Income (L42 - L44)	$ 1,385,539		$ 2,888,958	
46	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$ 7,500		$ 7,500	
47	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$ 6,250		$ 6,250	
48	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$ 8,500		$ 8,500	
49	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$ 91,650		$ 91,650	
50	Federal Tax on Fifth Income Bracket ($335,001 -$10,000,000) @ 34%	$ 357,183		$ 868,346	
51	Total Federal Income Tax	$ 471,083		$ 982,246	
52	Combined Federal and State Income Tax (L44 + L51)	$ 567,404		$ 1,183,082	
53	Applicable Federal Income Tax Rate [Col. [E], L51 - Col. [B], L51] / [Col. [E], L45 - Col. [B], L45]			34.0000%	
	Calculation of Interest Synchronization:				
54	Rate Base	$ 24,762,495			
55	Weighted Average Cost of Debt	1.0000%			
56	Synchronized Interest (L45 X L46)	$ 247,625			

Chaparral City Water Company **Schedule JMM-3**
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

RATE BASE - ORIGINAL COST

LINE NO.		(A) COMPANY AS FILED	(B) RUCO ADJUSTMENTS	(C) RUCO AS ADJUSTED
1	Plant in Service	$ 69,502,064	$ (1,770,756)	$ 67,731,308
2	Less: Accumulated Depreciation	25,734,123	(38,739)	25,695,384
3	Net Plant in Service	$ 43,767,940	$ (1,732,017)	$ 42,035,924
4				
5	*LESS:*			
6				
7	Contributions in Aid of Construction (CIAC)	$ 14,991,871	$ -	$ 14,991,871
8	Less: Accumulated Amortization	2,529,950	-	$ 2,529,950
9	Net CIAC	12,461,921	-	$ 12,461,921
10				
11	Advances in Aid of Construction (AIAC)	4,008,916	-	4,008,916
12				
13	Customer Meter Deposits	1,950	3,791	5,741
14	Customer Deposits	-	-	-
15	Deferred Income Taxes & Credits	1,271,696	-	1,271,696
17	FHSD Settlement	449,580		449,580
18				
19	*ADD:*			
20				
21				
22	Deferred Debits	686,104	(686,104)	-
23				
24	Working Capital Allowance	1,009,341	(84,917)	924,424
25				
26				
27	**Original Cost Rate Base**	$ 27,269,321	$ (2,506,826)	$ 24,762,495

References:
Column [A]: Company as Filed
Column [B]: Schedule JMM-4
Column (C): Column (A) + Column (B)

Chaparral City Water Company
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

Schedule JMM-4

SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS

LINE NO.	ACCT. NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Post-Test Year Plant Ref: Sch JMM-5	[C] ADJ #2 Retirement of Transportation Vehicles Ref: Sch JMM-6	[D] ADJ #3 Customer Deposits Ref: Sch JMM-7	[E] ADJ #4 Removal of CAP Deferral Ref: Sch JMM-8	[F] ADJ #5 Removal of 24 Months AFUDC and Dep. Expense Ref: Sch JMM-9	[G] ADJ #6 Cash Working Capital Allowance Ref: Sch JMM-10	[H] RUCO ADJUSTED
		PLANT IN SERVICE:								
1										
2	301	Organization Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	302	Franchise Cost	-	-	-	-	-	-	-	-
4	303	Land and Land Rights	1,554,591	-	-	-	-	-	-	1,554,591
5	304	Structures and Improvements	1,779,391	-	-	-	-	-	-	1,779,391
6	305	Collecting and Impounding Res.	1,019,211	-	-	-	-	-	-	1,019,211
7	306	Lake River and Other Intakes	-	-	-	-	-	-	-	-
8	307	Wells and Springs	159,627	-	-	-	-	-	-	159,627
9	308	Infiltration Galleries and Tunnels	-	-	-	-	-	-	-	-
10	309	Supply Mains	2,201,526	-	-	-	-	-	-	2,201,526
11	310	Power Generation Equipment	-	-	-	-	-	-	-	-
12	311	Electric Pumping Equipment	5,926,668	-	-	-	-	-	-	5,926,668
13	320.1	Water Treatment Plant	-	-	-	-	-	-		-
14	320.2	Water Treatment Equipment	6,551,094	-	-	-	-	-		6,551,094
15	330.1	Distribution Reservoirs and Standpipes	4,989,253	-	-	-	-	-	-	4,989,253
16	331	Transmission and Distribution Mains	24,390,732	-	-	-	-	-	-	24,390,732
17	333	Services	10,890,767	-	-	-	-	-		10,890,767
18	334	Meters	2,916,068	-	-	-	-	-		2,916,068
19	335	Hydrants	2,019,913	-	-	-	-	-	-	2,019,913
20	336	Backflow Prevention Devices	-	-	-	-	-	-	-	-
21	339	Other Plant and Miscellaneous Equipment	143,521	-	-	-	-	-	-	143,521
22	340	Office Furniture and Fixtures	305,068	-	-	-	-	-	-	305,068
23	340.1	Computer and Software	-				-	-		-
24	341	Transportation Equipment	494,662	-	(77,348)	-	-	-	-	417,314
25	342	Stores Equipment	-	-	-	-	-	-	-	-
26	343	Tools and Work Equipment	190,662	-	-	-	-	-		190,662
27	344	Laboratory Equipment	-	-	-	-	-	-	-	-
28	345	Power Operated Equipment	-	-	-	-	-	-	-	-
29	346	Communications Equipment	43,326	-	-	-	-	-	-	43,326
30	347	Miscellaneous Equipment	-	-	-	-	-	-	-	-
31	348	Other Tangible Plant	41,221	-	-	-	-	-	-	41,221
32		Total Plant in Service - Sub Total	65,617,301	-	-	-	-	-	-	65,539,953
33										
34		Post Test Year Plant								
35	307	Wells and Springs	793,374	276,206	-	-	-	-	-	1,069,580
36	311	Electric Pumping Equipment	130,000	(130,000)	-	-	-	-	-	-
37	320.2	Water Treatment Equipment	409,369	(336,334)	-	-	-	-	-	73,035
38	330.1	Distribution Reservoirs and Standpipes	1,245,860	(575,439)	-	-	-	-	-	670,421
39	331	Transmission and Distribution Mains	353,577	(286,613)	-	-	-	-	-	66,964
40	333	Services	410,000	(410,000)	-	-	-	-	-	-
41	334	Meters	300,000	(300,000)	-	-	-	-	-	-
42	335	Hydrants	10,000	(10,000)	-	-	-	-	-	-
43	339	Other Plant and Miscellaneous Equipment	132,558	86,874	-	-	-	-	-	219,432
44	341	Transportation Equipment	9,248	389	-	-	-	-	-	9,637
45	343	Tools and Work Equipment	31,777	5,158	-	-	-	-	-	36,935
46	346	Communications Equipment	59,000	(13,649)	-	-	-	-	-	45,351
33		Total Post Test Year Plant	3,884,763	(1,693,408)	-	-	-	-	-	2,191,355
34		Total Plant in Service	$ 69,502,064	$ (1,693,408)	$ (77,348)	$ -	$ -	$ -	$ -	$ 67,731,308
35		Less: Accumulated Depreciation	25,734,123	38,609	(77,348)	-	-	-	-	25,695,384
36			-	-	-	-		-		-
37		Net Plant in Service	$ 43,767,940	$ (1,732,017)	$ -	$ -	$ -	$ -	$ -	$ 42,035,924
38										
39		*LESS:*								
40		Contributions in Aid of Construction (CIAC)	$ 14,991,871	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,991,871
41		Less: Accumulated Amortization	2,529,950	-	-	-	-	-	-	$ 2,529,950
42		Net CIAC (L25 - L26)	12,461,921	-	-	-	-	-	-	12,461,921
43		Advances in Aid of Construction (AIAC)	4,008,916	-	-	-	-	-	-	4,008,916
44		Customer Meter Deposits	1,950	-	-	3,791	-	-	-	5,741
45		Customer Deposits	-					-		-
46		Deferred Income Taxes & Credits	1,271,696	-	-	-	-	-	-	1,271,696
47		FHSD Settlement	449,580	-				-		449,580
48								-		-
49		*ADD:*						-		-
50		Deferred Debits	686,104	-	-	-	(78,206)	(607,898)	-	-
51		Working Capital Allowance	1,009,341	-	-	-	-	-	(84,917)	924,424
52								-		
53		**Original Cost Rate Base**	$ 27,269,321	$ (1,732,017)	$ -	$ (3,791)	$ (78,206)	$ (607,898)	$ (84,917)	$ 24,762,495

Chaparral City Water Company
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Schedule JMM-5

RATE BASE ADJUSTMENT NO. 4 - POST-TEST YEAR PLANT AND ACCUMULATED DEPRECIATION

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	307	Wells and Springs	$ 793,374	$ 276,206	$ 1,069,580
2	311	Electric Pumping Equipment	130,000	(130,000)	-
3	320.2	Water Treatment Equipment	409,369	(336,334)	73,035
4	330.1	Distribution Reservoirs and Standpipes	1,245,860	(575,439)	670,421
5	331	Transmission and Distribution Mains	353,577	(286,613)	66,964
6	333	Services	410,000	(410,000)	-
7	334	Meters	300,000	(300,000)	-
8	335	Hydrants	10,000	(10,000)	-
9	339	Other Plant and Miscellaneous Equipment	132,558	86,874	219,432
10	341	Transportation Equipment	9,248	389	9,637
11	343	Tools and Work Equipment	31,777	5,158	36,935
12	346	Communications Equipment	59,000	(13,649)	45,351
13	Total Test Year Plant		$ 3,884,763	$ (1,693,408)	$ 2,191,355
14					
15	Accumulated Depreciation 1/2 Convention on Post-Test Year Plant		$ -	$ 38,609	$ 38,609
16					
17				1/2 Year	Accumulated
18	RUCO's Calulation of Post-Test Year Accumulated Depreciation		RUCO Recommended	Depreciation Rate	Depreciaiton
19	307	Wells and Springs	$ 1,069,580	1.67%	17,809
20	311	Electric Pumping Equipment	-	6.25%	-
21	320.2	Water Treatment Equipment	73,035	1.67%	1,216
22	330.1	Distribution Reservoirs and Standpipes	670,421	1.11%	7,442
23	331	Transmission and Distribution Mains	66,964	1.00%	670
24	333	Services	-	1.67%	-
25	334	Meters	-	1.67%	-
26	335	Hydrants	-	1.00%	-
27	339	Other Plant and Miscellaneous Equipment	219,432	3.34%	7,318
28	341	Transportation Equipment	9,637	10.00%	964
29	343	Tools and Work Equipment	36,935	2.50%	923
30	346	Communications Equipment	45,351	5.00%	2,268
			$ 2,191,355		$ 38,609

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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Schedule JMM-6

RATE BASE ADJUSTMENT NO. 2 - RETIREMENT OF TRANSPORTATION EQUIPMENT

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	341	Transportation Equipment	$ 494,662	$ (77,348)	$ 417,314
2					
		Accumulated Depreciation	25,734,123	(77,348)	25,656,775

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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Schedule JMM-7

RATE BASE ADJUSTMENT NO. 3 - CUSTOMER DEPOSITS

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1		Customer Deposits	$ 1,950	$ 3,791	$ 5,741
2					

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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Schedule JMM-8

RATE BASE ADJUSTMENT NO. 4 - REMOVAL OF DEFERRED CENTRAL ARIZONA PROJECT ("CAP") MAINTENANCE AND INDUSTRIAL ("M&I") CHARGES

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1		Deferred Debits	$ 686,104	$ (78,206)	607,898

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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Schedule JMM-9

RATE BASE ADJUSTMENT NO. 5 - REMOVAL OF 24 MONTH DEFERRAL OF ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION ("AFUDC") AND DEPRECIATION EXPNESE

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
		Deferred Debits	$ 686,104	$ (607,898)	$ 78,206

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

RATE BASE ADJUSTMENT NO. 6 - CASH WORKING CAPITAL

LINE NO.	ACCT NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1		Working Capital Allowance	$ 1,009,341	$ (84,917)	924,424

RUCO's Calculation

(A)	Proforma Test Year Amount (B)	Revenue Lag (Lead) Days (C)	Expense Lag (Lead) Days (D)	Net Lag (Lead) Days Col. C - Col. D (E)	Lead/Lag Factor Col. E/365 (F)	Cash Working Capital Required Col. B * Col. F (G)
OPERATING EXPENSES						
Labor	1,010,022	34.93	13.09	21.84	0.06	60,432
Purchased Water	1,166,827	34.93	43.67	(8.74)	(0.02)	(27,943)
Fuel & Power	613,386	34.93	27.86	7.07	0.02	11,879
Chemicals	120,742	34.93	(79.22)	114.15	0.31	37,760
Waste Disposal & Other Utilities	7,113	34.93	41.90	(6.97)	(0.02)	(136)
Intercompany Support Services	94,150	34.93	29.99	4.94	0.01	1,274
Corporate Allocation	361,175	34.93	30.00	4.93	0.01	4,877
Outside Services	508,106	34.93	88.00	(53.07)	(0.15)	(73,879)
Group Insurance	178,067	34.93	12.00	22.93	0.06	11,186
Pensions	85,086	34.93	67.98	(33.05)	(0.09)	(7,705)
Regulatory Expense	-	-	-	-	-	-
Insurance Other Than Group	73,025	34.93	(26.14)	61.07	0.17	12,218
Customer Accounting (Less Bad Debt Expense)	292,213	34.93	26.53	8.40	0.02	6,724
Rents	1,504	34.93	-	34.93	0.10	144
General Office Expense	164,179	34.93	39.69	(4.76)	(0.01)	(2,142)
Miscellaneous	151,474	34.93	(3.22)	38.15	0.10	15,832
Maintenance Expense	186,430	34.93	17.28	17.65	0.05	9,014
TAXES						
General Taxes-Property	254,521	34.93	213.96	(179.03)	(0.49)	(124,841)
General Taxes-Other	86,320	34.93	3.03	31.90	0.09	7,544
Income Tax	567,404	34.93	37.00	(2.07)	(0.01)	(3,220)
Interest Expense	283,560	34.93	91.25	(56.32)	(0.15)	(43,755)
TOTAL	5,921,745		CASH WORKING CAPITAL REQUIREMENT			(104,733)
			Company Recommended			(19,817)
			RUCO Adjustment			(84,917)

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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Schedule JMM-11

OPERATING INCOME STATEMENT - ADJUSTED TEST YEAR AND RUCO RECOMMENDED

LINE NO.	DESCRIPTION	[A] COMPANY ADJUSTED TEST YEAR AS FILED	[B] RUCO TEST YEAR ADJUSTMENTS	[C] RUCO TEST YEAR AS ADJUSTED	[D] RUCO PROPOSED CHANGES	[E] RUCO RECOMMENDED
1	*REVENUES:*					
2	Metered Water Sales	$ 8,915,656	$ 65,960	$ 8,981,616	$ 1,636,808	$ 10,618,424
3	Water Sales-Unmetered	-	-	-	-	-
4	Other Operating Revenue	99,329	-	99,329	-	99,329
5	Intentionally Left Blank	-	-	-	-	-
6	**Total Operating Revenues**	$ 9,014,985	$ 65,960	$ 9,080,945	$ 1,636,808	$ 10,717,753
7						
8	*OPERATING EXPENSES:*					
9	Salaries and Wages	$ 1,024,112	$ (14,090)	$ 1,010,022	$ -	$ 1,010,022
10	Purchased Water	1,065,953	100,874	1,166,827	-	1,166,827
11	Fuel & Power	605,885	7,501	613,386	-	613,386
12	Fuel for Power Production	-	-	-	-	-
13	Chemicals	119,266	1,476	120,742	-	120,742
14	Waste Disposal	7,113	-	7,113	-	7,113
15	Intercompany Support Services	94,150	-	94,150	-	94,150
16	Corporate Allocation	500,330	(139,155)	361,175	-	361,175
17	Outside Services	508,106	-	508,106	-	508,106
18	Group Insurance	178,067	-	178,067	-	178,067
19	Pensions	85,086	-	85,086	-	85,086
20	Regulatory Expense	91,668	-	91,668	-	91,668
21	Insurance Other Than Group	73,025	-	73,025	-	73,025
22	Customer Accounting	318,959	-	318,959	14,568	333,527
23	Rents	1,504	-	1,504	-	1,504
24	General Office Expense	164,179	-	164,179	-	164,179
25	Miscellaneous Expenses	158,553	(7,079)	151,474	-	151,474
26	Maintenance Expense	388,614	(202,184)	186,430	-	186,430
27	Depreciation and Amortization Expense	2,014,048	(121,036)	1,893,012	-	1,893,012
28	General Taxes - Property Taxes	251,038	(10,822)	240,216	14,306	254,521
29	General Taxes-Other	86,320		86,320		86,320
30	Income Taxes	389,412	177,992	567,404	615,678	1,183,082
31	Interest on Customer Deposits	-	-	-	-	-
32	**Total Operating Expenses**	$ 8,125,389	$ (206,523)	$ 7,918,865	$ 644,552	$ 8,563,416
33	**Operating Income (Loss)**	$ 889,596	$ 272,483	$ 1,162,080	$ 992,257	$ 2,154,337

References:
Column (A): Company Schedule C-1
Column (B): Schedule JMM-12
Column (C): Column (A) + Column (B)
Column (D): Schedules JMM-20 and JMM-21
Column (E): Column (C) + Column (D)

Chaparral City Water Company
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Schedule JMM-12

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] Reverse Declining Usage Expense ADJ #1 Ref: Sch JMM-13	[C] Incentive Pay ADJ #2 Ref: Sch JMM-14	[D] Increase Purchase Water Expense ADJ #3 Ref: Sch JMM-15	[E] Corporate Allocation Expense ADJ #4 Ref: Sch JMM-16	[F] Conservation Expense ADJ #5 Ref: Sch JMM-17	[G] Tank Maintenance Expense ADJ #6 Ref: Sch JMM-18	[H] Depreciation Expense ADJ #7 Ref: Sch JMM-19	[I] Property Tax Expense ADJ #8 Ref: Sch JMM-20	[J] Income Tax Expense ADJ #9 Ref: Sch JMM-21	[k] RUCO ADJUSTED
1	*REVENUES:*											
2	Metered Water Sales	$ 8,915,656	$ 65,960	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,981,616
3	Water Sales-Unmetered	-	-	-	-	-	-	-	-	-	-	-
4	Other Operating Revenue	99,329	-	-	-	-	-	-	-	-	-	99,329
5	Intentionally Left Blank	-	-	-	-	-	-	-	-	-	-	-
6	**Total Operating Revenues**	$ 9,014,985	$ 65,960	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,080,945
7												
8	*OPERATING EXPENSES:*											
9	Salaries and Wages	$ 1,024,112	$ -	$ (14,090)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,010,022
10	Purchased Water	1,065,953	13,196	-	87,678	-	-	-	-	-	-	1,166,827
11	Fuel & Power	605,885	7,501	-	-	-	-	-	-	-	-	613,386
12	Fuel for Power Production	-	-	-	-	-	-	-	-	-	-	-
13	Chemicals	119,266	1,476	-	-	-	-	-	-	-	-	120,742
14	Waste Disposal	7,113	-	-	-	-	-	-	-	-	-	7,113
15	Intercompany Support Services	94,150	-	-	-	-	-	-	-	-	-	94,150
16	Corporate Allocation	500,330	-	-	-	(139,155)	-	-	-	-	-	361,175
17	Outside Services	508,106	-	-	-	-	-	-	-	-	-	508,106
18	Group Insurance	178,067	-	-	-	-	-	-	-	-	-	178,067
19	Pensions	85,086	-	-	-	-	-	-	-	-	-	85,086
20	Regulatory Expense	91,668	-	-	-	-	-	-	-	-	-	91,668
21	Insurance Other Than Group	73,025	-	-	-	-	-	-	-	-	-	73,025
22	Customer Accounting	318,959	-	-	-	-	-	-	-	-	-	318,959
23	Rents	1,504	-	-	-	-	-	-	-	-	-	1,504
24	General Office Expense	164,179	-	-	-	-	-	-	-	-	-	164,179
25	Miscellaneous Expenses	158,553	-	-	-	-	(7,079)	-	-	-	-	151,474
26	Maintenance Expense	388,614	-	-	-	-	-	(202,184)	-	-	-	186,430
27	Depreciation and Amortization Expense	2,014,048	-	-	-	-	-	-	(121,036)	-	-	1,893,012
28	General Taxes - Property Taxes	251,038	-	-	-	-	-	-	-	(10,822)	-	240,216
29	General Taxes - Other	86,320										86,320
30	Income Taxes	389,412	-	-	-	-	-	-	-	-	177,992	567,404
31	Interest on Customer Deposits	-	-	-	-	-	-	-	-	-	-	-
32	**Total Operating Expenses**	$ 8,125,389	$ 22,173	$ (14,090)	$ 87,678	$ (139,155)	$ (7,079)	$ (202,184)	$ (121,036)	$ (10,822)	$ 177,992	$ 7,918,865
33	**Operating Income (Loss)**	$ 889,596	$ 43,787	$ 14,090	$ (87,678)	$ 139,155	$ 7,079	$ 202,184	$ 121,036	$ 10,822	$ (177,992)	$ 1,162,080

Chaparral City Water Company **Schedule JMM-13**
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OPERATING INCOME ADJUSTMENT NO. 1 - REVERSE DECLINING USAGE ADJUSTMENT

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	Metered Water Sales	$ 8,915,656	$ 65,960	$ 8,981,616
2				
3	Purchased Water	$ 1,065,953	$ 13,196	$ 1,079,149
4				
5	Fuel and Power	$ 605,885	$ 7,501	$ 613,386
6				
7	Chemicals	$ 119,266	$ 1,476	$ 120,742
8				

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company **Schedule JMM-14**
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OPERATING INCOME ADJUSTMENT NO. 2 - INCENTIVE PAY

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY PROPOSED**	**RUCO ADJUSTMENTS**	**RUCO RECOMMENDED**
1	Salaries and Wages	$ 1,024,112	$ (14,090)	$ 1,010,022

RUCO's Calculation of Incentive Pay	
Incentive pay included in labor expense	$ 28,180
Sharing between ratepayers and shareholders	50.00%
Incentive pay	$ 14,090

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
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OPERATING INCOME ADJUSTMENT NO. 3 - PURCHASED WATER EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	Purchased Water	$ 1,065,953	$ 87,678	$ 1,153,631

RUCO's Calculation to Increase CAP M&I Charges

Future CAP Charge 7,943.5 (a.f.) x $20.80 (average of five years 20 + 21 + 21 + 21 + 21)	$ 165,225
Schedule CAP Allocation 6,861 (a.f.) x $146.20 (average of five years 129 + 138 + 149 + 155 + 160)	1,003,078
Storage at MWD 917 (a.f.) *($16)	(14,672)
Projected CAP Costs	$ 1,153,631
Adjusted Test Year	$ 1,065,953
Recommended Adjustment	$ 87,678

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

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Schedule JMM-16

OPERATING INCOME ADJUSTMENT NO. 4 - CORPORATE ALLOCATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	Corporate Allocation	$ 500,330	$ (139,155)	$ 361,175
2				
3	RUCO's Summary of Corporate Allocation Disallowances			
4	At-Risk Compensation	$ 86,489		
5	Corporate Communications	$ 6,687		
6	Operational Communications	$ 2,532		
7	EPCOR Community Essentials Council	$ 5,595		
8	Community Relations	$ 23,222		
9	Corporate Communications	$ 14,630		
10		$ 139,155		

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

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OPERATING INCOME ADJUSTMENT NO. 5 - REMOVE CONSERVATION EXPENSE

LINE NO.	DESCRIPTION	[A] COMPANY PROPOSED	[B] RUCO ADJUSTMENTS	[C] RUCO[1] RECOMMENDED
1	Miscellaneous Expenses	$ 158,553	$ (7,079)	$ 151,474

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

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Schedule JMM-18

OPERATING INCOME ADJUSTMENT NO. 6 - REMOVE TANK MAINTENANCE EXPENSE

		[A]	[B]	[C]
LINE NO.	**DESCRIPTION**	**COMPANY PROPOSED**	**RUCO ADJUSTMENTS**	**RUCO[1] RECOMMENDED**
1	Maintenance Expense	$ 388,614	$ (202,184)	$ 186,430

[1] Amounts may not reflect other adjustments.

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

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Schedule JMM-19

OPERATING INCOME ADJUSTMENT NO. 7 - DEPRECIATION EXPENSE ON TEST YEAR PLANT

LINE NO.	ACCT NO.	DESCRIPTION	[A] PLANT In SERVICE Per Staff	[B] NonDepreciable or Fully Depreciated PLANT	[C] DEPRECIABLE PLANT (Col A - Col B)	[D] DEPRECIATION RATE	[E] DEPRECIATION EXPENSE (Col C x Col D)
1	301	Organization Cost	$ -	$ -	$ -	0.00%	$ -
2	302	Franchise Cost	$ -	$ -	$ -	0.00%	$ -
3	303	Land and Land Rights	$ 1,554,591	$ 1,554,591	$ -	0.00%	$ -
4	304	Structures and Improvements	$ 1,779,391	$ -	$ 1,779,391	3.33%	$ 59,254
5	305	Collecting and Impounding Res.	$ 1,019,211	$ -	$ 1,019,211	2.50%	$ 25,480
6	306	Lake River and Other Intakes	$ -	$ -	$ -	2.50%	$ -
7	307	Wells and Springs	$ 159,627	$ -	$ 159,627	3.33%	$ 5,316
8	308	Infiltration Galleries and Tunnels	$ -	$ -	$ -	6.67%	$ -
9	309	Supply Mains	$ 2,201,526	$ -	$ 2,201,526	2.00%	$ 44,031
10	310	Power Generation Equipment	$ -	$ -	$ -	5.00%	$ -
11	311	Electric Pumping Equipment	$ 5,926,668	$ -	$ 5,926,668	12.50%	$ 740,834
12	320	Water Treatment Plant	$ -	$ -	$ -	3.33%	$ -
13	320	Water Treatment Equipment	$ 6,551,094	$ -	$ 6,551,094	3.33%	$ 218,151
14	330	Distribution Reservoirs and Standpipes	$ 4,989,253	$ -	$ 4,989,253	2.22%	$ 110,761
15	331	Transmission and Distribution Mains	$ 24,390,732	$ -	$ 24,390,732	2.00%	$ 487,815
16	333	Services	$ 10,890,767	$ -	$ 10,890,767	3.33%	$ 362,663
17	334	Meters	$ 2,916,068	$ -	$ 2,916,068	8.33%	$ 242,908
18	335	Hydrants	$ 2,019,913	$ -	$ 2,019,913	2.00%	$ 40,398
19	336	Backflow Prevention Devices	$ -	$ -	$ -	6.67%	$ -
20	339	Other Plant and Miscellaneous Equipment	$ 143,521	$ -	$ 143,521	6.67%	$ 9,573
21	340	Office Furniture and Fixtures	$ 305,068	$ -	$ 305,068	6.67%	$ 20,348
22	340.1	Computer and Software	$ -	$ -	$ -	20.00%	$ -
23	341	Transportation Equipment	$ 417,314	$ -	$ 417,314	20.00%	$ 83,463
24	342	Stores Equipment	$ -	$ -	$ -	4.00%	$ -
25	343	Tools and Work Equipment	$ 190,662	$ -	$ 190,662	5.00%	$ 9,533
26	344	Laboratory Equipment	$ -	$ -	$ -	10.00%	$ -
27	345	Power Operated Equipment	$ -	$ -	$ -	5.00%	$ -
28	346	Communications Equipment	$ 43,326	$ -	$ 43,326	10.00%	$ 4,333
29	347	Miscellaneous Equipment	$ -	$ -	$ -	10.00%	$ -
30	348	Other Tangible Plant	$ 41,221	$ -	$ 41,221	10.00%	$ 4,122
31		Total Plant	$ 65,539,953	$ 1,554,591	$ 63,985,362		$ 2,468,982
32							
33	Post Test Year Plant						
34	307	Wells and Springs	$ 1,069,580	$ -	$ 1,069,580	3.33%	$ 35,617
35	311	Electric Pumping Equipment	$ -	$ -	$ -	12.50%	$ -
36	320.2	Water Treatment Equipment	$ 73,035	$ -	$ 73,035	3.33%	$ 2,432
37	330.1	Distribution Reservoirs and Standpipes	$ 670,421	$ -	$ 670,421	2.22%	$ 14,883
38	331	Transmission and Distribution Mains	$ 66,964	$ -	$ 66,964	2.00%	$ 1,339
39	333	Services	$ -	$ -	$ -	3.33%	$ -
40	334	Meters	$ -	$ -	$ -	3.33%	$ -
41	335	Hydrants	$ -	$ -	$ -	2.00%	$ -
42	339	Other Plant and Miscellaneous Equipment	$ 219,432	$ -	$ 219,432	6.67%	$ 14,636
43	341	Transportation Equipment	$ 9,637	$ -	$ 9,637	20.00%	$ 1,927
44	343	Tools and Work Equipment	$ 36,935	$ -	$ 36,935	5.00%	$ 1,847
45	346	Communications Equipment	$ 45,351	$ -	$ 45,351	10.00%	$ 4,535
46		Total Post Test Year Plant	$ 2,191,355	$ -	$ 2,191,355		$ 77,217
47							
48		Total	$ 67,731,308	$ 1,554,591	$ 66,176,717		$ 2,546,199
49							
50		Composite Depreciation Rate:					3.85%
51		Contributions in Aid of Construction ("CIAC"):					$ 14,991,871
52		Amortization of CIAC:					$ 577,187
53							
54		Depreciation Expense before Amortization of CIAC:					$ 2,546,199
55		Less Amortization of CIAC:					$ 577,187
56		Less FHSD Adjustment Amortization:					$ 76,000
57		Test Year Depreciation Expense - RUCO					$ 1,893,012
58							
59		Depreciation Expense - Company					$ 2,014,048
60							
61		RUCO's Removal of Deferred CAP Charges					$ (15,641)
62							
63		RUCO's Removal of 24 month AFUDC and Depreciation Expense					$ (23,586)
64							
65		Adjusted Depreciation Expense					$ 1,974,821
66							
67		RUCO's Adjustment to Depreciation Expense					$ (81,809)
68							
69		Total Adjustment (lines 61 + 63 + 69)					$ (121,036)
70							

References:
Column [A]: Schedule JMM-11
Column [B]: From Column [A]
Column [C]: Column [A] - Column [B]
Column [D]: Staff's Typical Engineering Depreciation Rates
Column [E]: Column [C] x Column [D]

Chaparral City Water Company
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

Schedule JMM-20

OPERATING INCOME ADJUSTMENT NO. 8 - PROPERTY TAX EXPENSE

LINE NO.	Property Tax Calculation	[A] RUCO AS ADJUSTED	[B] RUCO RECOMMENDED
1	RUCO Adjusted Test Year Revenues	$ 9,080,945	$ 9,080,945
2	Weight Factor	2	2
3	Subtotal (Line 1 * Line 2)	18,161,890	$ 18,161,890
4	RUCO Recommended Revenue, Per Schedule JMM-1	9,080,945	$ 10,717,753
5	Subtotal (Line 4 + Line 5)	27,242,835	28,879,643
6	Number of Years	3	3
7	Three Year Average (Line 5 / Line 6)	9,080,945	$ 9,626,548
8	Department of Revenue Mutilplier	2	2
9	Revenue Base Value (Line 7 * Line 8)	18,161,890	$ 19,253,096
10	Plus: 10% of CWIP -	161,294	161,294
11	Less: Net Book Value of Licensed Vehicles	-	$ -
12	Full Cash Value (Line 9 + Line 10 - Line 11)	18,323,184	$ 19,414,390
13	Assessment Ratio	19.0%	19.0%
14	Assessment Value (Line 12 * Line 13)	3,481,405	$ 3,688,734
15	Composite Property Tax Rate (Per Company Schedule)	6.9000%	6.9000%
16			$ -
17	RUCO Test Year Adjusted Property Tax (Line 14 * Line 15)	$ 240,216	
18	Company Proposed Property Tax	251,038	
19			
20	RUCO Test Year Adjustment (Line 16-Line 17)	$ (10,822)	
21	Property Tax - RUCO Recommended Revenue (Line 14 * Line 15)		$ 254,521
22	RUCO Test Year Adjusted Property Tax Expense (Line 16)		$ 240,216
23	Increase in Property Tax Expense Due to Increase in Revenue Requirement		$ 14,306
24			
25	Increase to Property Tax Expense		$ 14,306
26	Increase in Revenue Requirement		1,636,808
27	Increase to Property Tax per Dollar Increase in Revenue (Line19/Line 20)		0.873996%

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

Chaparral City Water Company
Docket No. W-02113A-13-0118
Test Year Ended: December 31, 2012

Schedule JMM-21

OPERATING INCOME ADJUSTMENT NO. 9 - TEST YEAR INCOME TAXES

LINE NO.	DESCRIPTION		
1			
2			
3			
4	*Calculation of Income Tax:*		Test Year
5	Revenue (Schedule JMM-1)	$	9,080,945
6	Operating Expenses Excluding Income Taxes	$	7,351,461
7	Synchronized Interest (L17)	$	247,625
8	Arizona Taxable Income (L1 - L2 - L3)	$	1,481,860
9	Arizona State Income Tax Rate		6.5000%
10	Arizona Income Tax (L4 x L5)	$	96,321
11	Federal Taxable Income (L4 - L6)	$	1,385,539
12	Federal Tax on First Income Bracket ($1 - $50,000) @ 15%	$	7,500
13	Federal Tax on Second Income Bracket ($51,001 - $75,000) @ 25%	$	6,250
14	Federal Tax on Third Income Bracket ($75,001 - $100,000) @ 34%	$	8,500
15	Federal Tax on Fourth Income Bracket ($100,001 - $335,000) @ 39%	$	91,650
16	Federal Tax on Fifth Income Bracket ($335,001 -$10,000,000) @ 34%	$	357,183
17	Total Federal Income Tax	$	471,083
18	Combined Federal and State Income Tax (L44 + L51)	$	567,404
19			
20			
21	*Calculation of Interest Synchronization:*		
22	Rate Base (Schedule JMM-4)	$	24,762,495
23	Weighted Average Cost of Debt		1.10%
24	Synchronized Interest (L16 x L17)	$	272,387
25			
26			
27	Income Tax - Per RUCO	$	567,404
28	Income Tax - Per Company	$	389,412
29	RUCO Adjustment	$	177,992

REFERENCES:
Column [A]: Company Filing
Column [B]: Testimony JMM
Column [C]: Column [A] + Column [B]

BEFORE THE ARIZONA CORPORATION COMMISSION

COMMISSIONERS
BOB STUMP, Chairman
GARY PIERCE
BRENDA BURNS
SUSAN BITTER SMITH
BOB BURNS

IN THE MATTER OF THE APPLICATION OF CHAPARRAL CITY WATER COMPANY FOR A DETERMINATION OF THE CURRENT FAIR VALUE OF ITS UTILITY PLANT AND PROPERTY AND FOR INCREASE IN ITS RATES AND CHARGES BASED THEREON	DOCKET NO. W-02113A-13-0118

PREPARED TESTIMONY

OF

DAVID C. PARCELL
PRESIDENT
TECHNICAL ASSOCIATES, INC.

ON BEHALF OF

RESIDENTIAL UTILITY CONSUMERS OFFICE

DECEMBER 9, 2013

TABLE OF CONTENTS

ATTACHMENT

EXHIBITS

EXECUTIVE SUMMARY
CHAPARRAL CITY WATER COMPANY
DOCKET NO. W-02113A-13-0118

My direct testimony provides my estimate of the cost of capital for Chaparral City. My cost of capital recommendation is as follows:

	Percent	Cost	Return
Long-term Debt	17.68%	5.92%	1.05%
Short-term Debt	0.48%	0.72%	0.00%
Common Equity	81.83%	9.35%	7.65%
Total Capital	100.00%		8.70%

The primary difference between my 8.70 percent recommendation and the 10.21 percent cost of capital request of Chaparral City is the cost of common equity – I propose a cost of equity of 9.25 percent and Chaparral City requests a cost of equity of 11.05 percent.

My 9.35 percent cost of common equity is derived from my application of three cost of equity models:

	Range	Mid-Point
Discounted Flow	8.7%	8.70%
Capital Asset Pricing Model	7.2-7.3%	7.25%
Comparable Earnings	9.0-9.50%	9.25%

I also demonstrate that the 11.05 percent cost of equity recommendation of Chaparral City witness Ahern significantly over-states the Company's actual cost of equity.

I. INTRODUCTION

Q. Please state your name, occupation and business address.

A. My name is David C. Parcell. I am President of Technical Associates, Inc. My business address is 9030 Stony Point Parkway, Suite 580, Richmond, VA 23235.

Q. Please summarize your education and work experience as it pertains to the presentation of your testimony in this proceeding.

A. I earned B.A. (1969) and M.A. (1970) degrees in Economics from Virginia Polytechnic Institute and State University (VA Tech). I also earned a Master of Business Administration from Virginia Commonwealth University (1985). I have been a consulting economist with Technical Associates since 1970. Over the past forty-plus years, I have been primarily involved in the preparation and presentation of expert testimony that focused on various financial issues associated with the regulation of public utilities. In connection with this, I have filed testimony and/or testified in about 500 public utility proceedings regarding the cost of capital and related issues. These testimonies included electric utilities, natural gas distribution utilities, telephone/telecommunications companies, water and wastewater utilities, and natural gas pipelines. I have also prepared cost of capital studies and/or testified in a significant number of instances involving other types of regulated enterprises, such as insurance companies, barges and consumer finance companies. Attachment 1 provides a more complete description of my educational and professional qualifications.

Q. Have you previously testified before the Arizona Corporation Commission?

A. Yes, I have. Since 1984, I have testified in approximately twenty-five proceedings before this Commission, involving electric, natural gas, telephone and water utilities. These testimonies have been presented on behalf of several parties, including the Commission's Utilities Division Staff, Residential Utility Consumer Office ("RUCO"), and other intervener groups.

Q. What is the purpose of your testimony in this proceeding?

A. Technical Associates has been retained by RUCO to address the cost of capital issues in the current application of Chaparral City Water Company ("Chaparral City"). I have performed independent analyses and am recommending a cost of common equity, capital structure and total cost of capital for Chaparral City.

Q. Have you prepared an exhibit in support of your testimony?

A. Yes, I have prepared one exhibit, identified as Schedule 1 through Schedule 10. This exhibit was prepared either by me or under my direction. The information contained in this exhibit is correct to the best of my knowledge and belief.

II. RECOMMENDATIONS AND SUMMARY

Q. What are your recommendations in this proceeding?

A. My overall cost of capital recommendation for Chaparral City is shown on Schedule 1 and can be summarized as follows:

	Percent	Cost	Return
Long-Term Debt	17.68%	5.92%	1.05%
Short-Term Debt	0.48%	0.72%	0.00%
Common Equity	81.83%	8.70-10.00%	7.12-8.18%
Total	100.00%		8.17-9.27%

Q. Please summarize your analyses and conclusions.

A. This proceeding is concerned with Chaparral City's regulated water utility operations in Arizona. My analyses are concerned with the Company's total cost of capital. The first step in performing these analyses is the development of the appropriate capital structure. Chaparral City proposes use of its actual capital structure ratios as of "end of projected year." I, in turn, use the actual test year capital structure ratios. Even though this capital structure differs significantly from that of most water utilities (including the group of proxy water utilities used to estimate the cost of common equity) I have also used this capital structure in my analyses.

The second step in a cost of capital calculation is a determination of the embedded cost rate of debt. I have used the test period cost rates for long-term debt of Chaparral City (i.e., 5.92 percent) and short-term debt (i.e., 0.72 percent).

The third step in the cost of capital calculation is the estimation of the cost of common equity ("COE"). I have employed three recognized methodologies to estimate the COE for Chaparral City. Each of these methodologies is applied to a group of proxy water utilities. These three methodologies and my findings are:

Methodology	Ranges
Discounted Cash Flow (DCF)	8.7%
Capital Asset Pricing Model (CAPM)	7.2-7.3% (7.25% mid-point)
Comparable Earnings (CE)	9.0-10.0% (9.5% mid-point)

Based upon these findings, it is my conclusion that the COE for Chaparral City is within a range of 8.70 percent to 10.00 percent (9.35 percent average), which is based upon the values for the DCF and CE results. I recommend 9.35 percent as the COE for Chaparral City. Combining these three steps into weighted cost of capital results in an overall rate of return of 8.17 percent to 9.23 percent (8.70 percent average) which incorporates a COE of 8.7 percent to 10.0 percent (9.35 percent average).

III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

Q. What are the primary economic and legal principles that establish the standards for determining a fair rate of return for a regulated utility?

A. Public utility rates are normally established in a manner designed to allow the recovery of their costs, including capital costs. This is frequently referred to as "cost of service" ratemaking. Rates for regulated public utilities traditionally have been primarily established using the "rate base - rate of return" concept. Under this method, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets utilized (*i.e.* rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility's balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners' equity side of the balance sheet as a percentage. Thus, the revenue impact of the cost of capital is derived by multiplying the rate base by the rate of return, including income taxes.

The rate of return is developed from the cost of capital, which is estimated by weighting the capital structure components (*i.e.* debt, preferred stock, and common equity) by their percentages in the capital structure and multiplying these values by their cost rates. This is also known as the weighted cost of capital.

Technically, "fair rate of return" is a legal and accounting concept that refers to an ex post (after the fact) earned return on an asset base, while the cost of capital is an economic and financial concept which refers to an ex ante (before the fact) expected, or required, return on a capital base. In regulatory proceedings, however, the two terms are often used interchangeably, and I have equated the two concepts in my testimony.

From an economic standpoint, a fair rate of return is normally interpreted to mean that an efficient and economically managed utility will be able to maintain its financial integrity, attract capital, and establish comparable returns for similar risk investments. These concepts are derived from economic and financial theory and are generally implemented using financial models and economic concepts.

Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on my understanding that two United States Supreme Court decisions provide the controlling standards for a fair rate of return. The first decision is Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia, 262 U.S. 679 (1923). In this decision, the Court stated:

> The annual rate that will constitute just compensation depends upon many circumstances and must be determined by the exercise of fair and

> enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally.

It is generally understood that the Bluefield decision established the following standards for a fair rate of return: comparable earnings, financial integrity, and capital attraction. It also noted that required returns change over time, and there is an underlying assumption that the utility be operated efficiently.

The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a balancing of the investor and consumer interests . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.

The three economic and financial parameters in the Bluefield and Hope decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the fundamental premise on which regulation rests, namely, that it is intended to act as a surrogate for competition.

I understand that because Arizona is a "Fair Value" state, Hope and Bluefield do not set forth the legal requirements applicable to determining fair rate of return in Arizona. In Simms v. Round Valley Light & Power Company, 294 P.2d 378 (1956), the Arizona Supreme Court took exception to application of the following principle in Arizona since the Constitution mandates consideration of fair value:

> "In the Hope case the court, in testing the reasonableness of rates fixed by the Federal Power Commission under the Natural Gas Act, 15 U.S.C.A Section 717 et seq., after holding that Congress had provided no formula by which just and reasonable rates were to be determined, ruled that it was the final result reached and not the method used in reaching the result that was controlling and that it was unimportant to 'determine the various permissible ways in which any rate base on which the return is computed might be arrived at'."

My testimony does not advocate that the Commission ignore the Simms holding in this regard, or the fair value of Chaparral City property, which it is required to consider under Article 15, Section of the Arizona Constitution. Rather, I find the Hope and Bluefield decisions can be helpful in their discussion of comparable earnings, financial integrity and capital attraction. I note that Chaparral City Witness Ahern also cites the Hope and Bluefield cases as guidelines for evaluating the cost of capital for the Company.

Q. Is Chaparral city requesting a "fair value" increment to this proceeding?

A. No, it is not. It is my understanding that Chaparral City maintains that its original cost rate base and its fair value rate base are the same.

Q. How can the Bluefield and Hope parameters be employed to estimate the cost of capital for a utility?

A. Neither the courts nor economic/financial theory has developed exact and mechanical procedures for precisely determining the cost of capital. This is the case because the cost of capital is an opportunity cost and is prospective-looking, which dictates that it must be estimated. However, there are several useful models that can be employed to assist in estimating the COE, which is the capital structure item that is the most difficult to determine. These include the DCF, CAPM, CE and risk premium ("RP") methods. I use three methodologies to determine Chaparral City's COE: the DCF, CAPM, and CE methods. I have not directly employed a RP model in my analyses although, as discussed later, my CAPM analysis is a form of the RP methodology. Each of these methodologies will be described in more detail later in my testimony.

IV. GENERAL ECONOMIC CONDITIONS

Q. Are economic and financial conditions important in determining the cost of capital for a public utility?

A. Yes. The cost of capital, for both fixed-cost (debt and preferred stock) components and common equity, are determined in part by current and prospective economic and financial conditions. At any given time, each of the following factors has an influence on the cost of capital:

- The level of economic activity (i.e., growth rate of the economy);
- The stage of the business cycle (i.e., recession, expansion, or transition);
- The level of inflation;
- The level and trend of interest rates; and,
- Expected economic conditions.

My understanding is that this position is consistent with the Bluefield decision that noted "[a] rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally." Bluefield, 262 U.S. at 693.

Q. What indicators of economic and financial activity did you evaluate in your analyses?

A. I examined several sets of economic statistics from 1975 to the present. I chose this time period because it permits the evaluation of economic conditions over four full business cycles, allowing for an assessment of changes in long-term trends. This period also approximates the beginning and continuation of active rate case activities by public utilities.

A business cycle is commonly defined as a complete period of expansion (recovery and growth) and contraction (recession). A full business cycle is a useful and convenient period over which to measure levels and trends in long-term capital costs because it incorporates the cyclical (i.e., stage of business cycle) influences, and thus, permits a comparison of structural (or long-term) trends.

Q. Please describe the timeframe of the four prior business cycles and the current cycle.

A. The four prior complete cycles and current cycle cover the following periods:

Business Cycle	Expansion Cycle	Contraction Period
1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001
2001-2009	Dec. 2001-Nov. 2007	Dec. 2007-June 2009
Current	July 2009-	

Source: National Bureau of Economic Research, "Business Cycle Expansions and Contractions."

Q. Do you have any general observations concerning the recent trends in economic conditions and their impact on capital costs over this broad period?

A. Yes, I do. Until the end of 2007, the United States economy had enjoyed general prosperity and stability since the early 1980s.[1] This period had been characterized by longer economic expansions, relatively tame contractions, low and declining inflation, and declining interest rates and other capital costs.

However, in 2008 and 2009, the economy declined significantly, initially as a result of the 2007 collapse of the "sub-prime" mortgage market and the related liquidity crisis in the financial sector of the economy. Subsequently, this financial crisis intensified with a more broad-based decline, initially based on a substantial increase in petroleum prices and a dramatic decline in the U.S. financial sector, culminating with the collapse and/or bailouts of a significant number of well-known institutions such as Bear Stearns, Lehman Brothers, Merrill Lynch, Freddie Mac, Fannie Mae, AIG and Wachovia. The recession also witnessed the demise of national companies such as Circuit City and the bankruptcies of automotive manufacturers such as Chrysler and General Motors.

This decline has been described as the worst financial crisis since the Great Depression and has been referred to as the "Great Recession." Since 2008, the U.S. and other governments have implemented and continue to implement unprecedented actions to attempt to correct or minimize the scope and effects of this recession.

The recession reached its low point in mid-2009 and the economy has since begun to expand again, although at a slow and uneven rate. However, the length and severity of the recession, as well as a relatively slow and uneven recovery, indicates that the impacts of the recession have been and will be felt for an extended period of time. As an example of this, even in the fifth year of the recovery/expansion, the U.S. unemployment rate still

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1 There was a "Tech Bubble" in 1999-2000, in which prices of many technology stocks encountered a dramatic run-up that was followed by an equally dramatic decline in 2001-2002.

stands at 7.3 percent[2] - close to the highest unemployment rate experienced over the last several decades.

Q. Please describe recent and current economic and financial conditions and their impact on the cost of capital.

A. Schedule 2 shows several sets of relevant economic data for the cited time periods. Pages 1 and 2 contain general macroeconomic statistics; pages 3 and 4 show interest rates; and pages 5 and 6 contain equity market statistics.

Pages 1 and 2 show that 2007 was the sixth year of an economic expansion but, as I previously noted, the economy subsequently entered a significant decline, as indicated by the growth in real (i.e., adjusted for inflation) Gross Domestic Product ("GDP"), industrial production, and an increase in the unemployment rate. This recession lasted until mid-2009, making it a longer-than-normal recession, as well as a much deeper recession. Since then, economic growth has been erratic and lower than the initial periods of prior expansions.

Pages 1 and 2 also show the rate of inflation. As reflected in the Consumer Price Index ("CPI"), for example, inflation rose significantly during the 1975-1982 business cycle and reached double-digit levels in 1979-1980. The rate of inflation declined substantially beginning in 1981, and remained at or below 6.1 percent during the 1983-1991 business cycle. Since 2008, the CPI has been 3 percent or lower, with 2012 being only 1.7 percent. It is thus apparent that the rate of inflation has generally been declining over the past several business cycles. Current levels of inflation are at the lowest levels of the past 35 years and are indicative of low inflation, which is reflective of lower capital costs.[3]

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[2] As of October, 2013.

[3] The rate of inflation is one component of interest rate expectations of investors, who generally expect to receive a return in excess of the rate of inflation. Thus, a lower rate of inflation has a downward impact on interest rates and other capital costs.

Q. What have been the trends in interest rates over the four prior business cycles and at the current time?

A. Pages 3 and 4 show several series of interest rates. Rates rose sharply to record levels in 1975-1981 when the inflation rate was high and generally rising. Interest rates declined substantially in conjunction with inflation rates during the remainder of the 1980s and throughout the 1990s. Interest rates declined even further from 2000-2005 and generally recorded their then-lowest levels since the 1960s.

Since 2008, the Federal Reserve has lowered the Federal Funds rate (i.e., short-term rate) to 0.25 percent, an all-time low. The Federal Reserve has also purchased U.S. Treasury securities to stimulate the economy, a process referred to as Quantitative Easing. As seen on page 4, in 2012 both U.S. and corporate bond yields declined to their lowest levels in the past four business cycles and in more than 35 years. Interest rates have risen from those lows since the beginning of 2013. Even with the recent increases, both government and corporate lending rates remain at historically low levels, again reflective of lower capital costs.

Q. What does this schedule show for trends of common share prices?

A. Pages 5 and 6 show several series of common stock prices and ratios. These indicate that stock prices were essentially stagnant during the high inflation/high interest rate environment of the late 1970s and early 1980s. The 1983-1991 business cycle and the more recent cycles witnessed a significant upward trend in stock prices. The beginning of the recent financial crisis saw stock prices decline precipitously, as stock prices in 2008 and early 2009 were down significantly from peak 2007 levels, reflecting the financial/economic crisis. Beginning in the second quarter of 2009, prices have recovered substantially and have ultimately reached and exceeded the levels achieved prior to the "crash."

Q. What conclusions do you draw from your discussion of economic and financial conditions?

A. It is apparent that recent economic and financial circumstances have been different from any that have prevailed since at least the 1930s. The late 2008-early 2009 deterioration in stock prices, the decline in U.S. Treasury bond yields, and an increase in corporate bond yields were evidenced in the then-evident "flight to safety." On the other side of this "flight to safety" is the negative perception of the recent declines in capital costs and returns, which significantly reduced the value of most retirement accounts, investment portfolios and other assets. One significant aspect of this has been a decline in investor expectations of returns. This is evident in several ways: 1) lower interest rates on bank deposits; 2) lower interest rates on U.S. Treasury and corporate bonds; and, 3) lower increases in Social Security cost of living benefits[4]. Finally, as noted above, utility bond interest rates are currently at levels below those prevailing prior to the financial crisis of late 2008 to early 2009 and are near the lowest levels in the past 35 years.

V. CHAPARRAL CITY'S OPERATIONS AND RISKS

Q. Please describe Chaparral City.

A. Chaparral City is a regulated utility that is "principally engaged in the purchase, treatment, distribution, and sale of water to about 13,000 customers in the Town of Fountain Hills and in a small portion of Scottsville, Arizona.[5]

Q. Who owns Chaparral City?

A. Chaparral City is a wholly-owned subsidiary of EPCOR Utilities, Inc. Prior to EPCOR Utilities' purchase of Chaparral City in 2011, it was owned by American States Water Company.

Q. Please describe EPCOR Utilities.

A. According to its website, the business of EPCOR Utilities is to "build, own and operate electrical transmission and distribution networks, water and wastewater treatment

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4 The anticipated increase in 2014 social security benefits is 1.5 percent – near an all-time low.

5 Source: Chaparral City website.

facilities and infrastructure in Canada and the United States. EPCOR Utilities is headquartered in Edmonton, Alberta. Its sole shareholder is the City of Edmonton.

Q. How is Chaparral City financed?

A. All of Chaparral City's equity capital is owned EPCOR Utilities. Chaparral City issues its own debt.

Q. Is it feasible to directly assess the perceived risk of Chaparral City relative to other water utilities?

A. No, it is not. Chaparral City does not have rated debt, so it is not possible to compare its debt ratings with other water utilities. In addition, neither Chaparral City nor its parent company is followed by Value Line, so it is not possible to compare Chaparral City's beta, safety, or financial strength with other water utilities.

Q. Ms. Ahern claims (page 44 and elsewhere) that Chaparral City's relatively small size increases its risk. Do you agree?

A. No, I do not. Chaparral City does not raise its own equity capital; rather, its capital is owned and provided by EPCOR Utilities. As a result, there is no legitimate "small size" aspect to Chaparral City's cost of equity, such as that proposed by Ms. Ahern.

VI. CAPITAL STRUCTURE AND COST OF DEBT

Q. What is the importance of determining a proper capital structure in a regulatory framework?

A. A utility's capital structure is important because the concept of rate base - rate of return regulation requires the capital structure to be utilized in estimating the total cost of capital. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriate relative to its level of business risk and relative to other utilities.

As discussed in Section III of my testimony, the purpose of determining the proper capital structure for a utility is to ascertain its capital costs. The rate base - rate of return concept recognizes the assets employed in providing utility services and provides for a return on these assets by identifying the liabilities and common equity (and their cost rates) used to finance the assets. In this process, the rate base is derived from the asset side of the balance sheet and the cost of capital is derived from the liabilities/owners' equity side of the balance sheet. The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal and the former is utilized to finance the latter.

The common equity ratio (*i.e.* the percentage of common equity in the capital structure) is the capital structure item which normally receives the most attention. This is the case because common equity: (1) usually commands the highest cost rate; (2) generates associated income tax liabilities; and (3) causes the most controversy since its cost cannot be precisely determined.

Q. What are the historic capital structure ratios of Chaparral City and EPCOR Utilities?

A. I have examined the historic (2008-2012) capital structure ratios of Chaparral City and EPCOR Utilities. See Schedule 3. Chaparral City's common equity ratios are:

	Including S-T Debt	Excluding S-T Debt
2008	71.5%	78.8%
2009	74.8%	79.4%
2010	79.4%	81.2%
2011	80.3%	82.2%
2012	74.1%	85.6%

Chaparral City is seen to have maintained capital structure with common equity ratios of over 74 percent.

Correspondingly, EPCOR Utilities common equity ratios are:

	Including S-T Debt	Excluding S-T Debt
2011	58.0%	58.3%
2012	53.1%	53.3%

Q. How do these capital structures compare to those of investor-owned water utilities?

A. Schedule 4 shows the common equity ratios (including short-term debt in capitalization) for the group of proxy water utilities identified in a following section of my testimony. These are:

	Value Line Water Group
2008	50%
2009	48%
2010	46%
2011	47%
2012	48%

These common equity ratio ranges are much lower than Chaparral City's ratios. They are also slightly lower than those of EPCOR Utilities.

Q. What capital structure ratio has Chaparral City requested in this proceeding?

A. Company witness Pauline Ahern requests use of Chaparral City's capital structure on a consolidated basis:

Capital Item	%
Long-Term Debt	16.60%
Common Equity	83.40%

These reflect the Company's actual capital structure ratios as of the "end of projected year."

Q. What capital structure do you propose to use in this proceeding?

A. I have used Chaparral City's actual test year capital structure. I note that Chaparral City's capital structure contains significantly more equity (in percentage terms) than the proxy utilities used to estimate the cost of common equity. This is correspondingly a factor that should be considered in establishing the cost of equity in this proceeding.

Q. What is the cost rate of debt in the Company's Application?

A. Chaparral City's filing requests a cost of long term debt of 5.97 percent, which is the Company's actual rate as of "end or projected year." I use actual test year costs of long-term and short term debt in my cost of capital analyses, which are 5.92 percent and 0.72 percent, respectively.

Q. Can the COE be determined with the same degree of precision as the cost of debt?

A. No. The cost rates of debt are largely determined by interest payments, issue prices, and related expenses. The COE, on the other hand, cannot be precisely quantified, primarily because this cost is an opportunity cost. As mentioned previously, there are several models that can be employed to estimate the COE. Three of the primary methods - DCF, CAPM, and CE - are developed in the following sections of my testimony.

VII. SELECTION OF PROXY GROUP

Q. How have you estimated the COE for Chaparral City?

A. Chaparral City is not a publicly-traded company. Its parent company (EPCOR Utilities) also is not publicly-traded. Consequently, it is not possible to directly apply COE models to these entities. However, in cost of capital analyses, it is customary to analyze groups of comparison, or "proxy," companies as a substitute for Chaparral City to determine its COE.

I have accordingly selected such a group for comparison to Chaparral City. This proxy group is selected from the group of nine water utilities included in Value Line Investment Survey. This is the same proxy group employed by Chaparral City witness Ahern in her COE analyses.

VIII. DCF ANALYSIS

Q. What is the theory and methodological basis of the DCF model?

A. The DCF model is one of the oldest and most commonly-used models for estimating the COE for public utilities. The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows.

The most common variant of the DCF model assumes that dividends are expected to grow at a constant rate (the "constant growth" or "Gordon DCF model"). In this framework, the cost of capital is derived from the following formula:

$$K = \frac{D}{P} + g$$

where: P = current price
D = current dividend rate
K = discount rate (cost of capital)
g = constant rate of expected growth

This formula essentially recognizes that the return expected or required by investors is comprised of two factors: the dividend yield (current income) and expected growth in dividends (future income).

Q. Please explain how you employ the DCF model.

A. I use the constant growth DCF model. In doing so, I combine the current dividend yield for each group of proxy utility stocks described in the previous section with several indicators of expected dividend growth.

Q. How did you derive the dividend yield component of the DCF equation?

A. Several methods can be used to calculate the dividend yield component. These methods generally differ in the manner in which the dividend rate is employed (*i.e.* current versus future dividends or annual versus quarterly compounding of dividends). I believe the most appropriate dividend yield component is a quarterly compounding variant, which is expressed as follows:

$$Yield = \frac{D_0(1 + 0.5g)}{P_0}$$

This dividend yield component recognizes the timing of dividend payments and dividend increases.

The P_0 in my yield calculation is the average of the high and low stock price for each proxy company for the most recent three month period (September-November 2013). The D_0 is the current annualized dividend rate for each proxy company.

Q. How do you estimate the dividend growth component of the DCF equation?

A. The DCF model's dividend growth rate component is usually the most crucial and controversial element involved in using this methodology. The objective of estimating the dividend growth component is to reflect the growth expected by investors that is embodied in the price (and yield) of a company's stock. As such, it is important to recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. This is evidenced by the fact that every investment decision resulting in the purchase of a particular stock is matched by another investment decision to sell that stock.

A wide array of indicators exists for estimating investors' growth expectations. As a result, it is evident that investors do not always use one single indicator of growth. It therefore, is necessary to consider alternative dividend growth indicators in deriving the growth component of the DCF model. I have considered five indicators of growth in my DCF analyses. These are:

1. Years 2008-2012 (5-year average) earnings retention, or fundamental growth;

2. Five-year average of historic growth in earnings per share (EPS), dividends per share (DPS), and book value per share (BVPS);

3. Years 2013, 2014 and 2016-2018 projections of earnings retention growth (per Value Line);

4. Years 2010-2012 to 2016-2018 projections of EPS, DPS, and BVPS (per Value Line); and,

5. Five-year projections of EPS growth (per First Call).

I believe this combination of growth indicators is a representative and appropriate set with which to begin the process of estimating investor expectations of dividend growth for the groups of proxy companies. I also believe that these growth indicators reflect the types of information that investors consider in making their investment decisions. As I indicated previously, investors have an array of information available to them, all of which should be expected to have some impact on their decision-making process.

Q. Please describe your DCF calculations.

A. Schedule 5 presents my DCF analysis. Page 1 shows the calculation of the "raw" (*i.e.* prior to adjustment for growth) dividend yield for each proxy company. Pages 2 and 3 show the growth rates for the groups of proxy companies. Page 4 shows the "raw" DCF calculations, which are presented on several bases: mean, median, and high values. These results can be summarized as follows:

	Mean	Median	Mean High[1]	Median High[1]
Value Line Water Group	7.4%	7.5%	8.7%	8.7%

[1] Using only the highest growth rate.

I note that the individual DCF calculations shown on Schedule 5 should not be interpreted to reflect the expected cost of capital for individual companies in the proxy groups; rather, the individual values shown should be interpreted as alternative information considered by investors.

Q. What do you conclude from your DCF analyses?

A. The DCF rates resulting from the analysis of the proxy group falls into a wide range between 7.4 percent and 8.7 percent. The highest DCF rates are 8.7 percent. I believe a 8.7 percent represents the current DCF-derived COE for the proxy group. I recommend a cost of equity of 8.7 percent for Chaparral City, which focuses on the upper portion of the DCF range.

IX. CAPM ANALYSIS

Q. Please describe the theory and methodological basis of the CAPM.

A. CAPM, was developed in the 1960s and 1970s as an extension of modern portfolio theory (MPT), which studies the relationships among risk, diversification, and expected returns. The CAPM describes and measures the relationship between a security's investment risk and its market rate of return.

Q. How is the CAPM derived?

A. The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

where: K = cost of equity

R_f = risk free rate

R_m = return on market

β = beta

R_m-R_f = market risk premium

The CAPM is a variant of the RP method. I believe the CAPM is generally superior to the simple RP method because the CAPM specifically recognizes the risk of a particular company or industry (*i.e,* beta), whereas the simple RP method assumes the same COE for all companies exhibiting similar bond ratings or other characteristics.

Q. What do you use for the risk-free rate?

A. The first input of the CAPM is the risk-free rate (R_f). The risk-free rate reflects the level of return that can be achieved without accepting any risk.

In CAPM applications, the risk-free rate is generally recognized by use of U.S. Treasury securities. Two general types of U.S. Treasury securities are often utilized as the R_f component, short-term U.S. Treasury bills and long-term U.S. Treasury bonds.

I have performed CAPM calculations using the three-month average yield (September-November 2013) for 20-year U.S. Treasury bonds. I use the yields on long-term Treasury bonds since this matches the long-term perspective of COE analyses. Over this three-month period, these bonds had an average yield of 3.47 percent.

Q. What is beta and what betas do you employ in your CAPM?

A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation to the overall market. Betas less than 1 are considered less risky than the market, whereas betas greater than 1 are more risky. Utility stocks traditionally have had betas below 1. I utilize the most recent Value Line betas for each company in my proxy group.

Q. How do you estimate the market risk premium component?

A. The market risk premium component (R_m-R_f) represents the investor-expected premium of common stocks over the risk-free rate, or government bonds. For the purpose of estimating the market risk premium, I considered alternative measures of returns of the S&P 500 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds.

First, I compared the actual annual returns on equity of the S&P 500 with the actual annual yields of U.S. Treasury bonds. Schedule 6 shows the return on equity for the S&P 500 group for the period 1978-2012 (all available years reported by S&P). This schedule also indicates the annual yields on 20-year U.S. Treasury bonds and the annual differentials (*i.e.* risk premiums) between the S&P 500 and U.S. Treasury 20-year bonds. Based upon these returns, I conclude that the risk premium from this analysis is 6.6 percent.

I next considered the total returns (*i.e.* dividends/interest plus capital gains/losses) for the S&P 500 group as well as for long-term government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and geometric means. I considered the total returns for the entire 1926-2012 period, which are as follows:

	S&P 500	L-T Gov't Bonds	Risk Premium
Arithmetic	11.8%	6.1%	5.7%
Geometric	9.8%	5.7%	4.1%

I conclude from this analysis that the expected risk premium is about 5.47 percent (i.e. average of all three risk premiums: 6.6 percent from Schedule 6; 5.7 percent arithmetic and 4.1 percent geometric from Morningstar). I believe that a combination of arithmetic and geometric means is appropriate since investors have access to both types of means and presumably, both types are reflected in investment decisions and thus, stock prices and the cost of capital.

Q. What are your CAPM results?

A. Schedule 7 shows my CAPM calculations. The results are:

	Mean	Median
Value Line Water Group	7.2%	7.3%

Q. What is your conclusion concerning the CAPM COE?

A. The CAPM results collectively indicate a COE of 7.2 percent to 7.3 percent for the group of proxy utilities. I conclude that an appropriate COE estimation for Chaparral City is 7.25 percent.

X. CE ANALYSIS

Q. Please describe the basis of the CE methodology.

A. The CE method is derived from the "corresponding risk" concept discussed in the Bluefield and Hope cases. This method is thus based upon the economic concept of opportunity cost. As previously noted, the cost of capital is an opportunity cost: the prospective return available to investors from alternative investments of similar risk.

The CE method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, it provides a direct measure of the fair return, since it translates into practice the competitive principle upon which regulation rests.

The CE method normally examines the experienced and/or projected returns on book common equity. The logic for examining returns on book equity follows from the use of original cost rate base regulation for public utilities, which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied (multiplied) to the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base-rate of return methodology used to set utility rates.

Q. How do you apply the CE methodology in your analysis of Chaparral City's COE?

A. I apply the CE methodology by examining realized returns on equity for the group of proxy companies, as well as unregulated companies, and evaluating investor acceptance of these returns by reference to the resulting market-to-book ratios. In this manner it is possible to assess the degree to which a given level of return equates to the cost of capital. It is generally recognized for utilities that market-to-book ratios of greater than one (*i.e.* 100 percent) reflect a situation where a company is able to attract new equity capital without dilution (*i.e.* above book value). As a result, one objective of a fair cost of equity is the maintenance of stock prices at or above book value. There is no regulatory obligation to set rates designed to maintain a market-to-book ratio significantly above one.

I further note that my CE analysis is based upon market data (through the use of market-to-book ratios) and is thus essentially a market test. As a result, my CE analysis is not subject to the criticisms occasionally made by some who maintain that past earned returns do not represent the cost of capital. In addition, my CE analysis also uses prospective returns and thus is not backward looking.

Q. What time periods do you examine in your CE analysis?

A. My CE analysis considers the experienced equity returns of the proxy group of utilities for the period 1992-2012 (*i.e.* the last twenty-one years). The CE analysis requires that I examine a relatively long period of time in order to determine trends in earnings over at least a full business cycle. Further, in estimating a fair level of return for a future period, it is important to examine earnings over a diverse period of time in order to avoid any undue influence from unusual or abnormal conditions that may occur in a single year or shorter period. Therefore, in forming my judgment of the current cost of equity, I focused on three periods: 2009-2012 (the current business cycle), 2002-2008 (the most recent business cycle) and 1992-2001 (the previous business cycle). I have also considered projected returns on equity for 2013, 2014 and 2016-2018.

Q. Please describe your CE analysis.

A. Schedules 8 and 9 contain summaries of experienced returns on equity for two groups of companies, while Schedule 10 presents a risk comparison of utilities versus unregulated firms.

Schedule 8 shows the earned returns on average common equity and market-to-book ratios for the group of proxy utilities. These can be summarized as follows:

	Value Line Water Group
Historic ROE	
Mean	9.5-11.1%
Median	9.2-10.9%
Historic M/B	
Mean	178-232%
Median	173-219%
Prospective ROE	
Mean	9.3-9.9%
Median	8.8-9.5%

These results indicate that historic returns of 9.2 percent to 11.1 percent have been adequate to produce market-to-book ratios of 173 percent to 232 percent for the group of utilities. Furthermore, projected returns on equity for 2013, 2014 and 2016-2018 are within a range of 8.8 percent to 9.9 percent for the utility group. These relate to 2012 market-to-book ratios of 170 percent or greater.

Q. Do you also review the earnings of unregulated firms?

A. Yes. As an alternative, I also examine the Standard & Poor's 500 Composite group. This is a well recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy. Schedule 9 presents the earned returns on equity and market-to-book ratios for the S&P 500 group over the past twenty years (i.e., 1992-2012). As this exhibit indicates, over the three business cycle periods, this group's average earned returns ranged from 12.4 percent to 14.7 percent, with average market-to-book ratios ranging between 204 percent and 341 percent.

Q. How can the above information be used to estimate Chaparral City's COE?

A. The recent earnings of the proxy utilities and S&P 500 groups can be viewed as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy. In order to apply these returns to the COE for the proxy utilities, however, it is necessary to compare the risk levels of the water utilities and the competitive companies. I do this in Schedule 10, which compares several risk indicators for the S&P 500 group and the water utility group. The information in Schedule 10 indicates that the S&P 500 group is more risky than the water utility proxy group.

Q. What COE is indicated by your CE analysis?

A. Based on recent earnings and market-to-book ratios, my CE analysis indicates that the COE for the proxy utilities is no more than 9.0 percent to 10.0 percent. Recent returns of 9.2 percent to 11.1 percent have resulted in market-to-book ratios more than 170 percent. Prospective returns of 8.8 percent to 9.9 percent have been accompanied by market-to-book ratios over 170 percent. As a result, it is apparent that authorized returns below this level would continue to result in market-to-book ratios of well above 100 percent. An earned return of 9.0 percent to 10.0 percent should thus result in a market-to-book ratio well above 100 percent. As I indicated earlier, the fact that market-to-book ratios substantially exceed 100 percent indicates that historic and prospective returns of over 10.0 percent reflect earnings levels that are well above the actual cost of equity for those regulated companies. I also note that a company whose stock sells above book value can attract capital in a way that enhances the book value of existing stockholders, thus creating a favorable environment for financial integrity. Finally, I note that my 9.0 percent to 10.0 percent CE finding does not incorporate any market-to-book "adjustments," as it matches the projected returns on equity for the proxy group.

XI. RETURN ON EQUITY RECOMMENDATION

Q. Please summarize the results of your three COE analyses.

A. My three COE analyses produce the following:

DCF	8.7%	
CAPM	7.2-7.3%	(7.25% mid-point)
CE	9.0-10.0%	(9.5% mid-point)

These results indicate an overall broad range of 7.2 percent to 10.0 percent, which focuses on the respective ranges of my individual model results. Focusing on the respective midpoints, the range is 7.25 percent to 9.5 percent. I recommend a COE range of 8.7 percent to 10.0 percent for Chaparral City. This range includes my DCF result (8.7 percent), and my CE upper-end (10.0 percent). For the purposes of this proceeding, I recommend the average of mid-point values, which is 9.35 percent.

Q. It appears that your CAPM results are less than your DCF and CE results. Does this imply that the CAPM results should not be considered in determining the cost of equity for Chaparral City?

A. No. It is apparent that the CAPM results are less than the DCF and CE results. There are two reasons for the lower CAPM results. First, risk premiums are lower currently than was the case in prior years. This is the result of lower equity returns that have been experienced over the past several years. This is also reflective of a decline in investor expectations of equity returns and risk premiums. Second, the level of interest rates on U.S. Treasury bonds (i.e., the risk free rate) has been lower in recent years. This is partially the result of the actions of the Federal Reserve System to stimulate the economy. This also impacts investor expectations of returns in a negative fashion. I note that, initially, investors may have believed that the decline in Treasury yields was a temporary factor that would soon be replaced by a rise in interest rates. However, this has not been the case as interest rates have remained low and continued to decline for the past four-plus years. The Federal Reserve has further announced its intention to continue stimulus (and maintain low interest rates) through at least 2014. As a result, it cannot be maintained that low interest rates (and low CAPM results) are temporary and do not reflect investor expectations. Consequently, the CAPM results should be considered as one factor in determining the cost of equity for Chaparral City.

XII. TOTAL COST OF CAPITAL

Q. What is the total cost of capital for Chaparral City?

A. Schedule 1 reflects the total cost of capital for Chaparral City using the proposed capital structure and embedded cost of debt, as well as my COE recommendations. The resulting total cost of capital is a range of 8.17 percent to 9.23 percent. I recommend a 8.70 percent total cost of capital for Chaparral City.

XIII. COMMENTS ON COMPANY TESTIMONY

Q. What cost of capital has Chaparral City requested in its Application?

A. The Company's filing requests a total cost of capital of 10.21 percent, which incorporates a COE of 11.05 percent. The 11.05 percent requested COE is developed in the testimony of Chaparral City witness Pauline M. Ahern.

Q. How does she derive her COE recommendation?

A. Ms. Ahern performs the following cost of equity analyses and derives the indicated results:

	Ahern Group of Nine AUS Water Utility Companies
DCF Model	8.84%
Risk Premium Model	11.04%
CAPM	10.75%
Indicated Median Cost of Equity	10.48%
Financial Risk Adjustment	0.18%
Business Risk Adjustment	0.40%
Indicated COE	11.06%
Recommended Cost of Equity	11.05%

Her recommendation for Chaparral City is 11.05 percent.

Q. Do you have any disagreements with any or all of Ms. Ahern's methodologies and recommendations?

A. Yes. I have disagreements with several of her cost of equity methodologies and conclusions, as well as her proposed 0.18 percent "financial risk adjustment" and 0.40 percent "business risk adjustment" for Chaparral City.

Q. Please begin with her DCF model and conclusions.

A. Ms. Ahern's 8.84 percent DCF conclusion is shown on Exhibit PMA-1, Schedule 6. This is similar to my DCF results.

Q. Please describe Ms. Ahern's risk premium methodology and conclusions.

A. Ms. Ahern performs two types of risk premium analyses. First, she employs a Predictive Risk Premium Model™ ("PRPM™") which produces a 11.52 percent cost of equity. Second, she develops her Adjusted Market Approach risk premium methodology to arrive at a risk premium cost of equity of 9.61 percent. Her risk premium method conclusion and recommendation is 11.04 percent (Exhibit PMA-1, Schedule 8).

Q. What is Ms. Ahern's first risk premium methodology?

A. Ms. Ahern first performs a relatively new type of risk premium approach, which is her PRPM™ approach. This approach is new and untried. Significantly, the result of this methodology is a 11.52 percent cost of equity conclusion, which greatly exceeds (i.e., nearly 200 basis points) the results of her Adjusted Market Approach risk premium approach. She gives equal weight to the Adjusted Market Approach and the PRPM™ approach to arrive at her 11.04 percent risk premium method (Exhibit PMA-1, Schedule 8). I again note that, not only does her PRPM™ approach produce a much higher cost of equity result, the approach is also a component in her Adjustment Market Approach methodologies and has the effect of raising the results of these methodologies.

Q. Do you agree with her Adjusted Market Approach methodology and conclusions?

A. No, I do not. I primarily disagree with the average equity risk premium level of 5.16 percent she employs in her Adjusted Market Approach. Ms. Ahern uses two studies to derive her 5.16 percent Adjusted Market Approach risk premium and averages the two results to arrive at her results. First, she compares total returns for the S&P 500 Index over the 1926-2012 period with arithmetic returns on Aaa and Aa-rated corporate bonds (5.60 percent risk premium) as well as the PRPM™ over the same period (9.08 percent risk premium). She also uses projected total returns on stocks versus prospective yields on corporate bonds (9.94 percent). These produce an average risk premium of 8.21 percent. She then multiplies the 8.21 percent average risk premium by the 0.70 average beta of her proxy group (in a CAPM context) to develop a 5.75 percent equity risk premium (Exhibit PMA-1, Schedule 8, page 8).

There are several problems with her methodologies. Her use of total stock returns over the 1926-2012 period, in connection with bond yields over the same long period, seems to imply that investors in 2013 expect such relationships to be the same. There is no demonstration that current investors expect such relationships to exist at the current time. Her methodology is also a mis-match since it compares holding period returns (i.e., capital gains/losses plus income) with yields on bonds (i.e., only income return). In addition, the 1926-2012 period was heavily influenced by the Great Depression, World War II, the high inflation/interest rate environment of the 1970s/1980s, etc. Such factors are not prevalent currently have the effect of inflating risk premiums over those expected by investors. I believe Ms. Ahern's analyses over-state the required risk premiums at the present time. In addition, I find it inconsistent on her part to defend use of historic data going back to 1926 in her risk premium and CAPM analyses, and to then ignore historic data in her DCF analyses. I do not see how an investor would place equal weight between returns in 1926 and 2013 in one type of analysis (i.e., risk premium and CAPM) and then give no weight whatsoever to recent (i.e., 5 years) experience in DCF analysis. I also disagree with Ms. Ahern's use of projected equity returns, which are largely dependent on assumed stock market values. This is speculative.

Q. Please describe Ms. Ahern's CAPM analyses.

A. Ms. Ahern performs two sets of CAPM analyses. Her CAPM is a "traditional" CAPM, where she concludes that 10.75 percent is the CAPM cost. This uses a risk free rate of 4.27 percent (projected yield on 30-year U.S. Treasury bonds), Value Line beta and a risk premium of 8.78 percent. I note that current 30-year Treasury bonds have recently yielded below 4.27 percent, which indicates that her prospective yield is excessive.

I also disagree with the 8.78 percent market risk premium Ms. Ahern employs in her CAPM analyses. This market risk premium is developed in a similar fashion to those in his risk premium analyses. For the same reasons cited above, Ms. Ahern's risk premium values are over-stated.

Ms. Ahern also performs an "empirical" CAPM analysis, wherein she assigns 75 percent weight to actual betas for the proxy groups of gas utilities and a 25 percent weight to an assumed beta of 1.0 (i.e., the market beta). I disagree with this empirical CAPM.

Q. Ms. Ahern concludes that the "indicated cost of equity" for her proxy group is 10.48 percent, which she increases by some 0.18 percent to reflect her perception of a required "financial risk adjustment" for Chaparral City. What is your response to this proposed adjustment?

A. I disagree with Ms. Ahern's proposed financial risk adjustment for Chaparral City. She makes this financial risk, or credit risk, adjustment due to her perception that Chaparral City's parent (EPCOR Utilities) has a BBB+ credit rating by S&P, which is slightly lower than the average credit rating of the proxy water utilities. Her proposed 0.18 percent financial risk adjustment reflects her estimate of the differential yield between a BBB+ and A-rated utilities. This adjustment is not warranted. What Ms. Ahern does not consider in this comparison is the 83.4 percent common equity ratio in Chaparral City's requested capital structure, which is much greater than the 48 percent average equity ratio of the proxy group (see my Schedule 4). Ms. Ahern routinely proposes cost of equity adjustments for water utilities whose capital structures contain less common equity than the proxy group of water utilities whose capital structures contain less common equity than the proxy group of water utilities. In the current proceeding, involving a utility with a much higher common equity ratio, she is silent.

Q. Ms. Ahern also proposes, on pages 44-46, a business risk adjustment for Chaparral City. Do you agree with this adjustment?

A. No, I do not. Ms. Ahern is maintaining that, since Chaparral City's operations are smaller than her proxy group, the Company's cost of equity should be higher than that for the proxy group.

I do not believe that Ms. Ahern's proposed financial risk adjustment is warranted. As I noted previously, Chaparral City does not raise its own equity capital.

Q. Does this conclude your Direct Testimony?

A. Yes, it does.

BACKGROUND AND EXPERIENCE PROFILE
DAVID C. PARCELL, MBA, CRRA
PRESIDENT/SENIOR ECONOMIST

EDUCATION

1985	M.B.A., Virginia Commonwealth University
1970	M.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)
1969	B.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)

POSITIONS

2007-Present	President, Technical Associates, Inc.
1995-2007	Executive Vice President and Senior Economist, Technical Associates, Inc.
1993-1995	Vice President and Senior Economist, C. W. Amos of Virginia
1972-1993	Vice President and Senior Economist, Technical Associates, Inc.
1969-1972	Research Economist, Technical Associates, Inc.
1968-1969	Research Associate, Department of Economics, Virginia Polytechnic Institute and State University

ACADEMIC HONORS

Omicron Delta Epsilon - Honor Society in Economics
Beta Gamma Sigma - National Scholastic Honor Society of Business Administration
Alpha Iota Delta - National Decision Sciences Honorary Society
Phi Kappa Phi - Scholastic Honor Society

PROFESSIONAL DESIGNATION

Certified Rate of Return Analyst - Founding Member

RELEVANT EXPERIENCE

<u>Financial Economics</u> -- Advised and assisted many Virginia banks and savings and loan associations on organizational and regulatory matters. Testified approximately 25 times before the Virginia State Corporation Commission and the Regional Administrator of

National Banks on matters related to branching and organization for banks, savings and loan associations, and consumer finance companies. Advised financial institutions on interest rate structure and loan maturity. Testified before Virginia State Corporation Commission on maximum rates for consumer finance companies.

Testified before several committees and subcommittees of Virginia General Assembly on numerous banking matters.

Clients have included First National Bank of Rocky Mount, Patrick Henry National Bank, Peoples Bank of Danville, Blue Ridge Bank, Bank of Essex, and Signet Bank.

Published articles in law reviews and other periodicals on structure and regulation of banking/financial services industry.

Utility Economics -- Performed numerous financial studies of regulated public utilities. Testified in over 300 cases before some thirty state and federal regulatory agencies.

Prepared numerous rate of return studies incorporating cost of equity determination based on DCF, CAPM, comparable earnings and other models. Developed procedures for identifying differential risk characteristics by nuclear construction and other factors.

Conducted studies with respect to cost of service and indexing for determining utility rates, the development of annual review procedures for regulatory control of utilities, fuel and power plant cost recovery adjustment clauses, power supply agreements among affiliates, utility franchise fees, and use of short-term debt in capital structure.

Presented expert testimony before federal regulatory agencies Federal Energy Regulatory Commission, Federal Power Commission, and National Energy Board (Canada), state regulatory agencies in Alabama, Alaska, Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Ontario (Canada), Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, West Virginia, Washington, Wisconsin, and Yukon Territory (Canada).

Published articles in law reviews and other periodicals on the theory and purpose of regulation and other regulatory subjects.

Clients served include state regulatory agencies in Alaska, Arizona, Delaware, Missouri, North Carolina, Ontario (Canada), and Virginia; consumer advocates and attorneys general in Alabama, Arizona, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maryland, Nevada, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, and West Virginia; federal agencies including Defense Communications Agency, the Department of Energy, Department of the Navy, and General Services Administration; and various organizations such as Bath Iron Works, Illinois Citizens' Utility Board, Illinois Governor's Office of Consumer Services, Illinois Small Business Utility Advocate, Wisconsin's Environmental Decade, Wisconsin's Citizens Utility Board, and Old Dominion Electric Cooperative.

Insurance Economics -- Conducted analyses of the relationship between the investment income earned by insurance companies on their portfolios and the premiums charged for insurance. Analyzed impact of diversification on financial strength of Blue Cross/Blue Shield Plans in Virginia.

Conducted studies of profitability and cost of capital for property/casualty insurance industry. Evaluated risk of and required return on surplus for various lines of insurance business.

Presented expert testimony before Virginia State Corporation Commission concerning cost of capital and expected gains from investment portfolio. Testified before insurance bureaus of Maine, New Jersey, North Carolina, Rhode Island, South Carolina and Vermont concerning cost of equity for insurance companies.

Prepared cost of capital and investment income return analyses for numerous insurance companies concerning several lines of insurance business. Analyses used by Virginia Bureau of Insurance for purposes of setting rates.

Special Studies -- Conducted analyses which evaluated the financial and economic implications of legislative and administrative changes. Subject matter of analyses include returnable bottles, retail beer sales, wine sales regulations, taxi-cab taxation, and bank regulation. Testified before several Virginia General Assembly subcommittees.

Testified before Virginia ABC Commission concerning economic impact of mixed beverage license.

Clients include Virginia Beer Wholesalers, Wine Institute, Virginia Retail Merchants Association, and Virginia Taxicab Association.

Franchise, Merger & Anti-Trust Economics -- Conducted studies on competitive impact on market structures due to joint ventures, mergers, franchising and other business restructuring. Analyzed the costs and benefits to parties involved in mergers. Testified in federal courts and before banking and other regulatory bodies concerning the structure and performance of markets, as well as on the impact of restrictive practices.

Clients served include Dominion Bankshares, asphalt contractors, and law firms.

Transportation Economics -- Conducted cost of capital studies to assess profitability of oil pipelines, trucks, taxicabs and railroads. Analyses have been presented before the Federal Energy Regulatory Commission and Alaska Pipeline Commission in rate proceedings. Served as a consultant to the Rail Services Planning Office on the reorganization of rail services in the U.S.

Economic Loss Analyses -- Testified in federal courts, state courts, and other adjudicative forums regarding the economic loss sustained through personal and business injury whether due to bodily harm, discrimination, non-performance, or anticompetitive practices. Testified on economic loss to a commercial bank resulting from publication of adverse information concerning solvency. Testimony has been presented on behalf of private individuals and business firms.

MEMBERSHIPS

American Economic Association
Virginia Association of Economists
Richmond Society of Financial Analysts
Financial Analysts Federation
Society of Utility and Regulatory Financial Analysts

Board of Directors	1992-2000
Secretary/Treasurer	1994-1998
President	1998-2000

RESEARCH ACTIVITY

Books and Major Research Reports

"Stock Price As An Indicator of Performance," Master of Arts Thesis, Virginia Tech, 1970

"Revision of the Property and Casualty Insurance Ratemaking Process Under Prior Approval in the Commonwealth of Virginia," prepared for the Bureau of Insurance of the Virginia State Corporation Commission, with Charles Schotta and Michael J. Ileo, 1971

"An analysis of the Virginia Consumer Finance Industry to Determine the Need for Restructuring the Rate and Size Ceilings on Small Loans in Virginia and the Process by which They are Governed," prepared for the Virginia Consumer Finance Association, with Michael J. Ileo, 1973

State Banks and the State Corporation Commission: A Historical Review, Technical Associates, Inc., 1974

"A Study of the Implications of the Sale of Wine by the Virginia Department of Alcoholic Beverage Control", prepared for the Virginia Wine Wholesalers Association, Virginia Retail Merchants Association, Virginia Food Dealers Association, Virginia Association of Chain Drugstores, Southland Corporation, and the Wine Institute, 1983.

"Performance and Diversification of the Blue Cross/Blue Shield Plans in Virginia: An Operational Review", prepared for the Bureau of Insurance of the Virginia State Corporation Commission, with Michael J. Ileo and Alexander F. Skirpan, 1988.

The Cost of Capital - A Practitioners' Guide, Society of Utility and Regulatory Financial Analysts, 1997 (previous editions in 1991, 1992, 1993, 1994, and 1995).

Papers Presented and Articles Published

"The Differential Effect of Bank Structure on the Transmission of Open Market Operations," Western Economic Association Meeting, with Charles Schotta, 1971

"The Economic Objectives of Regulation: The Trend in Virginia," (with Michael J. Ileo), William and Mary Law Review, Vol. 14, No. 2, 1973

"Evolution of the Virginia Banking Structure, 1962-1974: The Effects of the Buck-Holland Bill", (with Michael J. Ileo), William and Mary Law Review, Vol. 16, No. 3, 1975

"Banking Structure and Statewide Branching: The Potential for Virginia", William and Mary Law Review, Vol. 18, No. 1, 1976

"Bank Expansion and Electronic Banking: Virginia Banking Structure Changes Past, Present, and Future," William and Mary Business Review," Vol. 1, No. 2, 1976

"Electronic Banking - Wave of the Future?" (with James R. Marchand), Journal of Management and Business Consulting, Vol. 1, No. 1, 1976

"The Pricing of Electricity" (with James R. Marchand), Journal of Management and Business Consulting, Vol. 1, No. 2, 1976

"The Public Interest - Bank and Savings and Loan Expansion in Virginia" (with Richard D. Rogers), University of Richmond Law Review, Vol. 11, No. 3, 1977

"When Is It In the 'Public Interest' to Authorize a New Bank?", University of Richmond Law Review, Vol. 13, No. 3, 1979

"Banking Deregulation and Its Implications on the Virginia Banking Structure," William and Mary Business Review, Vol. 5, No. 1, 1983

"The Impact of Reciprocal Interstate Banking Statutes on The Performance of Virginia Bank Stocks", with William B. Harrison, Virginia Social Science Journal, Vol. 23, 1988

"The Financial Performance of New Banks in Virginia", Virginia Social Science Journal, Vol. 24, 1989

"Identifying and Managing Community Bank Performance After Deregulation", with William B. Harrison, Journal of Managerial Issues, Vol. II, No. 2, Summer 1990

"The Flotation Cost Adjustment To Utility Cost of Common Equity - Theory, Measurement and Implementation," presented at Twenty-Fifth Financial Forum, National Society of Rate of Return Analysts, Philadelphia, Pennsylvania, April 28, 1993.

Biography of Myon Edison Bristow, Dictionary of Virginia Biography, Volume 2, 2001.

Exhibit___(DCP-1)
Schedule 1

CHAPARRAL CITY WATER COMPANY
TOTAL COST OF CAPITAL
AS OF END OF TEST PERIOD

Item	Amount 1/	Percent		Cost			Weighted Cost	
Long-Term Debt	$4,935,000	17.68%		5.92% 1/			1.05%	
Short-Term Debt	$135,057	0.48%		0.72% 1/			0.00%	
Common Equity	$22,837,590	81.83%	8.70%	9.35%	10.00%	7.12%	7.65%	8.18%
Total	$27,907,647	100.00%				**8.17%**	**8.70%**	**9.23%**

1/ Percentages of long-term debt and common equity, as well as cost of long-term debt, as contained in Company filing.

ECONOMIC INDICATORS

Year	Real GDP* Growth	Industrial Production Growth	Unemploy-ment Rate	Consumer Price Index	Producer Price Index
		1975 - 1982 Cycle			
1975	-1.1%	-8.9%	8.5%	7.0%	6.6%
1976	5.4%	10.8%	7.7%	4.8%	3.7%
1977	5.5%	5.9%	7.0%	6.8%	6.9%
1978	5.0%	5.7%	6.0%	9.0%	9.2%
1979	2.8%	4.4%	5.8%	13.3%	12.8%
1980	-0.2%	-1.9%	7.0%	12.4%	11.8%
1981	1.8%	1.9%	7.5%	8.9%	7.1%
1982	-2.1%	-4.4%	9.5%	3.8%	3.6%
		1983 - 1991 Cycle			
1983	4.0%	3.7%	9.5%	3.8%	0.6%
1984	6.8%	9.3%	7.5%	3.9%	1.7%
1985	3.7%	1.7%	7.2%	3.8%	1.8%
1986	3.1%	0.9%	7.0%	1.1%	-2.3%
1987	2.9%	4.9%	6.2%	4.4%	2.2%
1988	3.8%	4.5%	5.5%	4.4%	4.0%
1989	3.5%	1.8%	5.3%	4.6%	4.9%
1990	1.8%	-0.2%	5.6%	6.1%	5.7%
1991	-0.5%	-2.0%	6.8%	3.1%	-0.1%
		1992 - 2001 Cycle			
1992	3.0%	3.1%	7.5%	2.9%	1.6%
1993	2.7%	3.4%	6.9%	2.7%	0.2%
1994	4.0%	5.5%	6.1%	2.7%	1.7%
1995	3.7%	4.8%	5.6%	2.5%	2.3%
1996	4.5%	4.3%	5.4%	3.3%	2.8%
1997	4.5%	7.3%	4.9%	1.7%	-1.2%
1998	4.2%	5.8%	4.5%	1.6%	0.0%
1999	3.7%	4.5%	4.2%	2.7%	2.9%
2000	4.1%	4.0%	4.0%	3.4%	3.6%
2001	1.1%	-3.4%	4.7%	1.6%	-1.6%
		2002 - 2009 Cycle			
2002	1.8%	0.2%	5.8%	2.4%	1.2%
2003	2.8%	1.2%	6.0%	1.9%	4.0%
2004	3.8%	2.3%	5.5%	3.3%	4.2%
2005	3.4%	3.2%	5.1%	3.4%	5.4%
2006	2.7%	2.2%	4.6%	2.5%	1.1%
2007	1.8%	2.5%	4.6%	4.1%	6.2%
2008	-0.3%	-3.4%	5.8%	0.1%	-0.9%
2009	-2.8%	-11.3%	9.3%	2.7%	4.3%
		Current Cycle			
2010	2.5%	5.7%	9.6%	1.5%	3.8%
2011	1.8%	3.4%	8.9%	3.0%	4.7%
2012	2.8%	3.6%	8.1%	1.7%	1.4%

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issues.

ECONOMIC INDICATORS

Year	Real GDP* Growth	Industrial Production Growth	Unemploy-ment Rate	Consumer Price Index	Producer Price Index
2002					
1st Qtr.	2.7%	-3.8%	5.6%	2.8%	4.4%
2nd Qtr.	2.2%	-1.2%	5.9%	0.9%	-2.0%
3rd Qtr.	2.4%	0.8%	5.8%	2.4%	1.2%
4th Qtr.	0.2%	1.4%	5.9%	1.6%	0.4%
2003					
1st Qtr.	1.2%	1.1%	5.8%	4.8%	5.6%
2nd Qtr.	3.5%	-0.9%	6.2%	0.0%	-0.5%
3rd Qtr.	7.5%	-0.9%	6.1%	3.2%	3.2%
4th Qtr.	2.7%	1.5%	5.9%	-0.3%	2.8%
2004					
1st Qtr.	3.0%	2.8%	5.6%	5.2%	5.2%
2nd Qtr.	3.5%	4.9%	5.6%	4.4%	4.4%
3rd Qtr.	3.6%	4.6%	5.4%	0.8%	0.8%
4th Qtr.	2.5%	4.3%	5.4%	3.6%	7.2%
2005					
1st Qtr.	4.1%	3.8%	5.3%	4.4%	5.6%
2nd Qtr.	1.7%	3.0%	5.1%	1.6%	-0.4%
3rd Qtr.	3.1%	2.7%	5.0%	8.8%	14.0%
4th Qtr.	2.1%	2.9%	4.9%	-2.0%	4.0%
2006					
1st Qtr.	5.4%	3.4%	4.7%	4.8%	-0.2%
2nd Qtr.	1.4%	4.5%	4.6%	4.8%	5.6%
3rd Qtr.	0.1%	5.2%	4.7%	0.4%	-4.4%
4th Qtr.	3.0%	3.5%	4.5%	0.0%	3.6%
2007					
1st Qtr.	0.9%	2.5%	4.5%	4.8%	6.4%
2nd Qtr.	3.2%	1.6%	4.5%	5.2%	6.8%
3rd Qtr.	2.3%	1.8%	4.6%	1.2%	1.2%
4th Qtr.	2.9%	1.7%	4.8%	6.4%	10.8%
2008					
1st Qtr.	-1.8%	1.9%	4.9%	2.8%	9.6%
2nd Qtr.	1.3%	0.2%	5.3%	7.6%	14.0%
3rd Qtr.	-3.7%	-3.0%	6.0%	2.8%	-0.4%
4th Qtr.	-8.9%	6.0%	6.9%	-13.2%	-28.4%
2009					
1st Qtr.	-5.3%	-11.6%	8.1%	2.4%	-0.4%
2nd Qtr.	-0.3%	-12.9%	9.3%	3.2%	9.2%
3rd Qtr.	1.4%	-9.3%	9.6%	2.0%	-0.8%
4th Qtr.	4.0%	-4.5%	10.0%	2.5%	8.8%
2010					
1st Qtr.	1.6%	2.7%	9.7%	0.9%	6.5%
2nd Qtr.	3.9%	6.5%	9.7%	-1.2%	-2.4%
3rd Qtr.	2.8%	6.9%	9.6%	2.8%	4.0%
4th Qtr.	2.8%	6.2%	9.6%	2.8%	9.2%
2011					
1st Qtr.	-1.3%	5.4%	9.0%	4.8%	9.6%
2nd Qtr.	3.2%	3.6%	9.0%	3.2%	3.6%
3rd Qtr.	1.4%	3.3%	9.1%	2.4%	6.4%
4th Qtr.	4.9%	4.0%	8.7%	0.4%	-1.2%
2012					
1st Qtr.	3.7%	4.5%	8.3%	3.2%	2.0%
2nd Qtr.	1.2%	4.7%	8.2%	0.0%	-2.8%
3rd Qtr.	2.8%	3.4%	8.1%	4.0%	9.6%
4th Qtr.	0.1%	2.8%	7.8%	0.0%	-3.6%
2013					
1st Qtr.	1.1%	2.5%	7.7%	2.0%	1.2%
2nd Qtr.	2.5%	2.0%	7.6%	0.8%	2.4%
3rd Qtr.	2.8%	2.5%	7.3%	2.0%	80.0%

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issues.

INTEREST RATES

Year	Prime Rate	US Treasury T Bills 3 Month	US Treasury T Bonds 10 Year	Utility Bonds Aaa	Utility Bonds Aa	Utility Bonds A	Utility Bonds Baa
			1975 - 1982 Cycle				
1975	7.86%	5.84%	7.99%	9.03%	9.44%	10.09%	10.96%
1976	6.84%	4.99%	7.61%	8.63%	8.92%	9.29%	9.82%
1977	6.83%	5.27%	7.42%	8.19%	8.43%	8.61%	9.06%
1978	9.06%	7.22%	8.41%	8.87%	9.10%	9.29%	9.62%
1979	12.67%	10.04%	9.44%	9.86%	10.22%	10.49%	10.96%
1980	15.27%	11.51%	11.46%	12.30%	13.00%	13.34%	13.95%
1981	18.89%	14.03%	13.93%	14.64%	15.30%	15.95%	16.60%
1982	14.86%	10.69%	13.00%	14.22%	14.79%	15.86%	16.45%
			1983 - 1991 Cycle				
1983	10.79%	8.63%	11.10%	12.52%	12.83%	13.66%	14.20%
1984	12.04%	9.58%	12.44%	12.72%	13.66%	14.03%	14.53%
1985	9.93%	7.48%	10.62%	11.68%	12.06%	12.47%	12.96%
1986	8.33%	5.98%	7.68%	8.92%	9.30%	9.58%	10.00%
1987	8.21%	5.82%	8.39%	9.52%	9.77%	10.10%	10.53%
1988	9.32%	6.69%	8.85%	10.05%	10.26%	10.49%	11.00%
1989	10.87%	8.12%	8.49%	9.32%	9.56%	9.77%	9.97%
1990	10.01%	7.51%	8.55%	9.45%	9.65%	9.86%	10.06%
1991	8.46%	5.42%	7.86%	8.85%	9.09%	9.36%	9.55%
			1992 - 2001 Cycle				
1992	6.25%	3.45%	7.01%	8.19%	8.55%	8.69%	8.86%
1993	6.00%	3.02%	5.87%	7.29%	7.44%	7.59%	7.91%
1994	7.15%	4.29%	7.09%	8.07%	8.21%	8.31%	8.63%
1995	8.83%	5.51%	6.57%	7.68%	7.77%	7.89%	8.29%
1996	8.27%	5.02%	6.44%	7.48%	7.57%	7.75%	8.16%
1997	8.44%	5.07%	6.35%	7.43%	7.54%	7.60%	7.95%
1998	8.35%	4.81%	5.26%	6.77%	6.91%	7.04%	7.26%
1999	8.00%	4.66%	5.65%	7.21%	7.51%	7.62%	7.88%
2000	9.23%	5.85%	6.03%	7.88%	8.06%	8.24%	8.36%
2001	6.91%	3.44%	5.02%	7.47%	7.59%	7.78%	8.02%
			2002 - 2009 Cycle				
2002	4.67%	1.62%	4.61%	[1]	7.19%	7.37%	8.02%
2003	4.12%	1.01%	4.01%		6.40%	6.58%	6.84%
2004	4.34%	1.38%	4.27%		6.04%	6.16%	6.40%
2005	6.19%	3.16%	4.29%		5.44%	5.65%	5.93%
2006	7.96%	4.73%	4.80%		5.84%	6.07%	6.32%
2007	8.05%	4.41%	4.63%		5.94%	6.07%	6.33%
2008	5.09%	1.48%	3.66%		6.18%	6.53%	7.25%
2009	3.25%	0.16%	3.26%		5.75%	6.04%	7.06%
			Current Cycle				
2010	3.25%	0.14%	3.22%		5.24%	5.46%	5.96%
2011	3.25%	0.06%	2.78%		4.78%	5.04%	5.57%
2012	3.25%	0.09%	1.80%		3.83%	4.13%	4.86%

[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal Reserve Bulletin; various issues.

INTEREST RATES

	Prime Rate	US Treasury T Bills 3 Month	US Treasury T Bonds 10 Year	Utility Bonds Aaa [1]	Utility Bonds Aa	Utility Bonds A	Utility Bonds Baa
2007							
Jan	8.25%	4.96%	4.76%		5.78%	5.96%	6.16%
Feb	8.25%	5.02%	4.72%		5.73%	5.90%	6.10%
Mar	8.25%	4.97%	4.56%		5.66%	5.85%	6.10%
Apr	8.25%	4.88%	4.69%		5.83%	5.97%	6.24%
May	8.25%	4.77%	4.75%		5.86%	5.99%	6.23%
June	8.25%	4.63%	5.10%		6.18%	6.30%	6.54%
July	8.25%	4.84%	5.00%		6.11%	6.25%	6.49%
Aug	8.25%	4.34%	4.67%		6.11%	6.24%	6.51%
Sept	7.75%	4.01%	4.52%		6.10%	6.18%	6.45%
Oct	7.50%	3.97%	4.53%		6.04%	6.11%	6.36%
Nov	7.50%	3.49%	4.15%		5.87%	5.97%	6.27%
Dec	7.25%	3.08%	4.10%		6.03%	6.16%	6.51%
2008							
Jan	6.00%	2.86%	3.74%		5.87%	6.02%	6.35%
Feb	6.00%	2.21%	3.74%		6.04%	6.21%	6.60%
Mar	5.25%	1.38%	3.51%		5.99%	6.21%	6.68%
Apr	5.00%	1.32%	3.68%		5.99%	6.29%	6.82%
May	5.00%	1.71%	3.88%		6.07%	6.27%	6.79%
June	5.00%	1.90%	4.10%		6.19%	6.38%	6.93%
July	5.00%	1.72%	4.01%		6.13%	6.40%	6.97%
Aug	5.00%	1.79%	3.89%		6.09%	6.37%	6.98%
Sept	5.00%	1.46%	3.69%		6.13%	6.49%	7.15%
Oct	4.00%	0.84%	3.81%		6.95%	7.56%	8.58%
Nov	4.00%	0.30%	3.53%		6.83%	7.60%	8.98%
Dec	3.25%	0.04%	2.42%		5.93%	6.54%	8.13%
2009							
Jan	3.25%	0.12%	2.52%		6.01%	6.39%	7.90%
Feb	3.25%	0.31%	2.87%		6.11%	6.30%	7.74%
Mar	3.25%	0.25%	2.82%		6.14%	6.42%	8.00%
Apr	3.25%	0.17%	2.93%		6.20%	6.48%	8.03%
May	3.25%	0.15%	3.29%		6.23%	6.49%	7.76%
June	3.25%	0.17%	3.72%		6.13%	6.20%	7.30%
July	3.25%	0.19%	3.56%		5.63%	5.97%	6.87%
Aug	3.25%	0.18%	3.59%		5.33%	5.71%	6.36%
Sept	3.25%	0.13%	3.40%		5.15%	5.53%	6.12%
Oct	3.25%	0.08%	3.39%		5.23%	5.55%	6.14%
Nov	3.25%	0.05%	3.40%		5.33%	5.64%	6.18%
Dec	3.25%	0.07%	3.59%		5.52%	5.79%	6.26%
2010							
Jan	3.25%	0.06%	3.73%		5.55%	5.77%	6.16%
Feb	3.25%	0.10%	3.69%		5.69%	5.87%	6.25%
Mar	3.25%	0.15%	3.73%		5.64%	5.84%	6.22%
Apr	3.25%	0.15%	3.85%		5.62%	5.81%	6.19%
May	3.25%	0.16%	3.42%		5.29%	5.50%	5.97%
June	3.25%	0.12%	3.20%		5.22%	5.46%	6.18%
July	3.25%	0.16%	3.01%		4.99%	5.26%	5.98%
Aug	3.25%	0.15%	2.70%		4.75%	5.01%	5.55%
Sept	3.25%	0.15%	2.65%		4.74%	5.01%	5.53%
Oct	3.25%	0.13%	2.54%		4.89%	5.10%	5.62%
Nov	3.25%	0.13%	2.76%		5.12%	5.37%	5.85%
Dec	3.25%	0.15%	3.29%		5.32%	5.56%	6.04%
2011							
Jan	3.25%	0.15%	3.39%		5.29%	5.57%	6.06%
Feb	3.25%	0.14%	3.58%		5.42%	5.68%	6.10%
Mar	3.25%	0.11%	3.41%		5.33%	5.56%	5.97%
Apr	3.25%	0.06%	3.46%		5.32%	5.55%	5.98%
May	3.25%	0.04%	3.17%		5.08%	5.32%	5.74%
June	3.25%	0.04%	3.00%		5.04%	5.26%	5.67%
July	3.25%	0.03%	3.00%		5.05%	5.27%	5.70%
Aug	3.25%	0.05%	2.30%		4.44%	4.69%	5.22%
Sept	3.25%	0.02%	1.98%		4.24%	4.48%	5.11%
Oct	3.25%	0.02%	2.15%		4.21%	4.52%	5.24%
Nov	3.25%	0.01%	2.01%		3.92%	4.25%	4.93%
Dec	3.25%	0.02%	1.98%		4.00%	4.33%	5.07%
2012							
Jan	3.25%	0.02%	1.97%		4.03%	4.34%	5.06%
Feb	3.25%	0.08%	1.97%		4.02%	4.36%	5.02%
Mar	3.25%	0.09%	2.17%		4.16%	4.48%	5.13%
Apr	3.25%	0.08%	2.05%		4.10%	4.40%	5.11%
May	3.25%	0.09%	1.80%		3.92%	4.20%	4.97%
June	3.25%	0.09%	1.62%		3.79%	4.08%	4.91%
July	3.25%	0.10%	1.53%		3.58%	3.93%	4.85%
Aug	3.25%	0.11%	1.68%		3.65%	4.00%	4.88%
Sept	3.25%	0.10%	1.72%		3.69%	4.02%	4.81%
Oct	3.25%	0.10%	1.75%		3.68%	3.91%	4.54%
Nov	3.25%	0.11%	1.65%		3.60%	3.84%	4.42%
Dec	3.25%	0.08%	1.72%		3.75%	4.00%	4.56%
2013							
Jan	3.25%	0.07%	1.91%		3.90%	4.15%	4.66%
Feb	3.25%	0.10%	1.98%		3.95%	4.18%	4.74%
Mar	3.25%	0.90%	1.96%		3.90%	4.15%	4.66%
Apr	3.25%	0.60%	1.76%		3.74%	4.00%	4.49%
May	3.25%	0.50%	1.93%		3.91%	4.17%	4.65%
June	3.25%	0.50%	2.30%		4.27%	4.53%	5.08%
July	3.25%	0.40%	2.58%		4.44%	4.68%	5.21%
Aug	3.25%	0.40%	2.74%		4.53%	4.73%	5.28%
Sept	3.25%	0.20%	2.81%		4.58%	4.80%	5.31%
Oct	3.25%	0.60%	2.62%		4.48%	4.70%	5.17%
Nov	3.25%				4.56%	4.77%	5.24%

[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal Reserve Bulletin; various issues.

STOCK PRICE INDICATORS

	S&P Composite [1]	NASDAQ Composite [1]	DJIA	S&P D/P	S&P E/P
		1975 - 1982 Cycle			
1975			802.49	4.31%	9.15%
1976			974.92	3.77%	8.90%
1977			894.63	4.62%	10.79%
1978			820.23	5.28%	12.03%
1979			844.40	5.47%	13.46%
1980			891.41	5.26%	12.66%
1981			932.92	5.20%	11.96%
1982			884.36	5.81%	11.60%
		1983 - 1991 Cycle			
1983			1,190.34	4.40%	8.03%
1984			1,178.48	4.64%	10.02%
1985			1,328.23	4.25%	8.12%
1986			1,792.76	3.49%	6.09%
1987			2,275.99	3.08%	5.48%
1988	[1]	[1]	2,060.82	3.64%	8.01%
1989	322.84		2,508.91	3.45%	7.41%
1990	334.59		2,678.94	3.61%	6.47%
1991	376.18	491.69	2,929.33	3.24%	4.79%
		1992 - 2001 Cycle			
1992	415.74	$599.26	3,284.29	2.99%	4.22%
1993	451.21	715.16	3,522.06	2.78%	4.46%
1994	460.42	751.65	3,793.77	2.82%	5.83%
1995	541.72	925.19	4,493.76	2.56%	6.09%
1996	670.50	1,164.96	5,742.89	2.19%	5.24%
1997	873.43	1,469.49	7,441.15	1.77%	4.57%
1998	1,085.50	1,794.91	8,625.52	1.49%	3.46%
1999	1,327.33	2,728.15	10,464.88	1.25%	3.17%
2000	1,427.22	2,783.67	10,734.90	1.15%	3.63%
2001	1,194.18	2,035.00	10,189.13	1.32%	2.95%
		2002 - 2009 Cycle			
2002	993.94	1,539.73	9,226.43	1.61%	2.92%
2003	965.23	1,647.17	8,993.59	1.77%	3.84%
2004	1,130.65	1,986.53	10,317.39	1.72%	4.89%
2005	1,207.23	2,099.32	10,547.67	1.83%	5.36%
2006	1,310.46	2,263.41	11,408.67	1.87%	5.78%
2007	1,477.19	2,578.47	13,169.98	1.86%	5.29%
2008	1,220.04	2,161.65	11,252.62	2.37%	3.54%
2009	948.05	1,845.38	8,876.15	2.40%	1.86%
		Current Cycle			
2010	1,139.97	2,349.89	10,662.80	1.98%	6.04%
2011	1,268.89	2,677.44	11,966.36	2.05%	6.77%
2012	1,379.35	2,965.56	12,967.08	2.24%	6.20%

[1] Note: this source did not publish the S&P Composite prior to 1988 and the NASDAQ Composite prior to 1991.

Source: Council of Economic Advisors, Economic Indicators, various issues.

STOCK PRICE INDICATORS

	S&P Composite	NASDAQ Composite	DJIA	S&P D/P	S&P E/P
2004					
1st Qtr.	1,133.29	2,041.95	10,488.43	1.64%	4.62%
2nd Qtr.	1,122.87	1,984.13	10,289.04	1.71%	4.92%
3rd Qtr.	1,104.15	1,872.90	10,129.85	1.79%	5.18%
4th Qtr.	1,162.07	2,050.22	10,362.25	1.75%	4.83%
2005					
1st Qtr.	1,191.98	2,056.01	10,648.48	1.77%	5.11%
2nd Qtr.	1,181.65	2,012.24	10,382.35	1.85%	5.32%
3rd Qtr.	1,225.91	2,144.61	10,532.24	1.83%	5.42%
4th Qtr.	1,262.07	2,246.09	10,827.79	1.86%	5.60%
2006					
1st Qtr.	1,283.04	2,287.97	10,996.04	1.85%	5.61%
2nd Qtr.	1,281.77	2,240.46	11,188.84	1.90%	5.86%
3rd Qtr.	1,288.40	2,141.97	11,274.49	1.91%	5.88%
4th Qtr.	1,389.48	2,390.26	12,175.30	1.81%	5.75%
2007					
1st Qtr.	1,425.30	2,444.85	12,470.97	1.84%	5.85%
2nd Qtr.	1,496.43	2,552.37	13,214.26	1.82%	5.65%
3rd Qtr.	1,490.81	2,609.68	13,488.43	1.86%	5.15%
4th Qtr.	1,494.09	2,701.59	13,502.95	1.91%	4.51%
2008					
1st Qtr.	1,350.19	2,332.91	12,383.86	2.11%	4.55%
2nd Qtr.	1,371.65	2,426.26	12,508.59	2.10%	4.05%
3rd Qtr.	1,251.94	2,290.87	11,322.40	2.29%	3.94%
4th Qtr.	909.80	1,599.64	8,795.61	2.98%	1.65%
2009					
1st Qtr.	809.31	1,485.14	7,774.06	3.00%	0.86%
2nd Qtr.	892.23	1,731.41	8,327.83	2.45%	0.82%
3rd Qtr.	996.68	1,985.25	9,229.93	2.16%	1.19%
4th Qtr.	1,088.70	2,162.33	10,172.78	1.99%	4.57%
2010					
1st Qtr.	1,121.60	2,274.88	10,454.42	1.94%	5.21%
2nd Qtr.	1,135.25	2,343.40	10,570.54	1.97%	6.51%
3rd Qtr.	1,096.39	2,237.97	10,390.24	2.09%	6.30%
4th Qtr.	1,204.00	2,534.62	11,236.02	1.95%	6.15%
2011					
1st Qtr.	1,302.74	2,741.01	12,024.62	1.85%	6.13%
2nd Qtr.	1,319.04	2,766.64	12,370.73	1.97%	6.35%
3rd Qtr.	1,237.12	2,613.11	11,671.47	2.15%	7.69%
4th Qtr.	1,225.65	2,600.91	11,798.65	2.25%	6.91%
2012					
1st Qtr.	1,347.44	2,902.90	12,839.80	2.12%	6.29%
2nd Qtr.	1,350.39	2,928.62	12,765.58	2.30%	6.45%
3rd Qtr.	1,402.21	3,029.86	13,118.72	2.27%	6.00%
4th Qtr.	1,418.21	3,001.69	13,142.91	2.28%	6.07%
2013					
1st Qtr.	1,514.41	3,177.10	14,000.30	2.21%	5.59%
2nd Qtr.	1,609.77	3,369.49	14,961.28	2.15%	5.66%
3rd Qtr.	1,675.31	3,643.63	15,255.25	2.14%	5.65%

Source: Council of Economic Advisors, Economic Indicators, various issues.

CHAPARRAL CITY WATER COMPANY
CAPITAL STRUCTURE RATIOS
2008 - 2012

YEAR	COMMON EQUITY	LONG-TERM DEBT	SHORT-TERM DEBT 1/
2008	$22,172,815	$5,975,000	$2,844,111
	71.5%	19.3%	9.2%
	78.8%	21.2%	
2009	$21,793,722	$5,645,000	$1,705,989
	74.8%	19.4%	5.9%
	79.4%	20.6%	
2010	$22,957,165	$5,300,000	$650,997
	79.4%	18.3%	2.3%
	81.2%	18.8%	
2011	$22,854,464	$4,935,000	$680,434
	80.3%	17.3%	2.4%
	82.2%	17.8%	
2012	$26,949,123	$4,545,000	$4,876,128
	74.1%	12.5%	13.4%
	85.6%	14.4%	

1/ Includes notes/accounts payable to associated companies.

Source: Response to Data Request No. RUCO 6.03.

EPCOR UTILITIES INC.
CAPITAL STRUCTURE RATIOS
2011 - 2012
($ MILLIONS)

YEAR	COMMON EQUITY	LONG-TERM DEBT	SHORT-TERM DEBT 1/
2011	$2,351	$1,682	$17
	58.0%	41.5%	0.4%
	58.3%	41.7%	
2012	$2,234	$1,956	$14
	53.1%	46.5%	0.3%
	53.3%	46.7%	

1/ Includes notes/accounts payable to associated companies.

Source: Response to Data Request No. RUCO 6.03.

Exhibit___(DCP-1)
Schedule 4

PROXY UTILITIES
COMMON EQUITY RATIOS

Company	2008	2009	2010	2011	2012
Value Line Water Group					
American States Water Co.	54%	54%	51%	54%	58%
American Water Works		43%	42%	42%	44%
Aqua America, Inc.	44%	43%	42%	44%	45%
Artesian Resources	45%	46%	41%	48%	50%
California Water Service Group	55%	52%	46%	46%	45%
Connecticut Water Service, Inc.	53%	54%	45%	45%	50%
Middlesex Water	50%	44%	52%	52%	51%
SJW Corporation	52%	50%	46%	43%	44%
York Water Company	45%	43%	52%	53%	54%
Average	50%	48%	46%	47%	49%

Source: AUS Utility Reports.

PROXY UTILITIES
DIVIDEND YIELD

COMPANY	DPS	September-November, 2013 HIGH	LOW	AVERAGE	YIELD
Value Line Water Group					
American States Water Co.	$0.81	$29.45	$25.07	$27.26	3.0%
American Water Works	$1.12	$45.09	$39.05	$42.07	2.7%
Aqua America, Inc.	$0.61	$25.78	$23.85	$24.82	2.5%
Artesian Resources	$0.84	$23.82	$21.70	$22.76	3.7%
California Water Service Group	$0.64	$23.14	$18.87	$21.01	3.0%
Connecticut Water Service, Inc.	$0.99	$35.00	$30.29	$32.65	3.0%
Middlesex Water	$0.76	$22.14	$19.86	$21.00	3.6%
SJW Corporation	$0.73	$30.08	$25.63	$27.86	2.6%
York Water Company	$0.55	$22.00	$19.05	$20.53	2.7%
Average					**3.0%**

Source: Yahoo! Finance.

PROXY UTILITIES
RETENTION GROWTH RATES

COMPANY	2008	2009	2010	2011	2012	Average	2013	2014	2016-18
Value Line Water Group									
American States Water Co.	3.1%	3.2%	5.8%	5.3%	6.6%	4.8%	6.0%	6.0%	5.0%
American Water Works	3.0%	1.8%	2.8%	3.5%	4.6%	3.1%	4.5%	4.5%	4.5%
Aqua America, Inc.	2.8%	2.7%	3.7%	4.6%	4.3%	3.6%	6.0%	6.0%	5.0%
Artesian Resources	1.4%	2.1%	2.0%	0.5%	2.5%	1.7%			
California Water Service Group	3.8%	3.8%	3.0%	2.3%	3.4%	3.3%	1.5%	3.0%	3.0%
Connecticut Water Service, Inc.	1.9%	2.3%	1.6%	1.4%	2.7%	2.0%	3.5%	3.5%	3.0%
Middlesex Water	2.0%	0.1%	2.1%	1.0%	1.4%	1.3%	2.0%	2.5%	3.0%
SJW Corporation	3.3%	1.2%	1.2%	3.1%	3.3%	2.4%	3.5%	4.0%	3.5%
York Water Company	1.4%	1.9%	2.7%	2.5%	2.4%	2.2%	3.0%	3.0%	3.0%
Average						**2.7%**			

Source: AUS Utility Reports and Value Line Investment Survey.

PROXY UTILITIES
PER SHARE GROWTH RATES

COMPANY	5-Year Historic Growth Rates EPS	DPS	BVPS	Average	Est'd '10-'12 to '16-'18 Growth Rates EPS	DPS	BVPS	Average
Value Line Water Group								
American States Water Co.	11.5%	4.5%	5.5%	7.2%	6.0%	9.0%	2.0%	5.7%
American Water Works			-1.5%	-1.5%	10.0%	9.0%	4.5%	7.8%
Aqua America, Inc.	4.5%	8.0%	7.0%	6.5%	8.0%	8.0%	6.5%	7.5%
Artesian Resources	2.0%	4.5%	4.5%	3.7%				
California Water Service Group	5.5%	1.5%	4.5%	3.8%	6.5%	6.5%	5.5%	6.2%
Connecticut Water Service, Inc.	6.5%	2.0%	6.5%	5.0%	5.5%	3.5%	6.0%	5.0%
Middlesex Water	2.5%	1.5%	4.0%	2.7%	4.0%	1.5%	2.0%	2.5%
SJW Corporation	-1.5%	4.0%	3.5%	2.0%	7.5%	4.5%	5.0%	5.7%
York Water Company	4.5%	3.0%	6.0%	4.5%	4.0%	3.5%	2.5%	3.3%
Average				**3.8%**				**5.5%**

Source: AUS Utility Reports and Value Line Investment Survey.

PROXY UTILITIES
DCF COST RATES

COMPANY	ADJUSTED YIELD	HISTORIC RETENTION GROWTH	PROSPECTIVE RETENTION GROWTH	HISTORIC PER SHARE GROWTH	PROSPECTIVE PER SHARE GROWTH	FIRST CALL EPS GROWTH	AVERAGE GROWTH	DCF RATES
Value Line Water Group								
American States Water Co.	3.1%	4.8%	5.7%	7.2%	5.7%	2.0%	5.1%	8.1%
American Water Works	2.7%	3.1%	4.5%		7.8%	6.9%	5.6%	8.3%
Aqua America, Inc.	2.5%	3.6%	5.7%	6.5%	7.5%	5.8%	5.8%	8.3%
Artesian Resources	3.7%	1.7%		3.7%		4.0%	3.1%	6.9%
California Water Service Group	3.1%	3.3%	2.5%	3.8%	6.2%	6.0%	4.4%	7.5%
Connecticut Water Service, Inc.	3.1%	2.0%	3.3%	5.0%	5.0%	5.0%	4.1%	7.2%
Middlesex Water	3.7%	1.3%	2.5%	2.7%	2.5%	2.7%	2.3%	6.0%
SJW Corporation	2.7%	2.4%	3.7%	2.0%	5.7%	14.0%	5.6%	8.2%
York Water Company	2.7%	2.2%	3.0%	4.5%	3.3%	4.9%	3.6%	6.3%
Mean	3.0%	2.7%	3.9%	4.4%	5.5%	5.7%	4.4%	**7.4%**
Median	3.1%	2.4%	3.5%	4.2%	5.7%	5.0%	4.4%	**7.5%**
Composite-Mean		5.7%	6.9%	7.5%	8.5%	**8.7%**	7.4%	
Composite-Median		5.5%	6.6%	7.2%	**8.7%**	8.1%	7.4%	

Note: Negative average growth rates excluded from above DCF analyses.

STANDARD & POOR'S 500 COMPOSITE
20-YEAR U.S. TREASURY BOND YIELDS
RISK PREMIUMS

Year	EPS	BVPS	ROE	20-YEAR T-BOND	RISK PREMIUM
1977		$79.07			
1978	$12.33	$85.35	15.00%	7.90%	7.10%
1979	$14.86	$94.27	16.55%	8.86%	7.69%
1980	$14.82	$102.48	15.06%	9.97%	5.09%
1981	$15.36	$109.43	14.50%	11.55%	2.95%
1982	$12.64	$112.46	11.39%	13.50%	-2.11%
1983	$14.03	$116.93	12.23%	10.38%	1.85%
1984	$16.64	$122.47	13.90%	11.74%	2.16%
1985	$14.61	$125.20	11.80%	11.25%	0.55%
1986	$14.48	$126.82	11.49%	8.98%	2.51%
1987	$17.50	$134.04	13.42%	7.92%	5.50%
1988	$23.75	$141.32	17.25%	8.97%	8.28%
1989	$22.87	$147.26	15.85%	8.81%	7.04%
1990	$21.73	$153.01	14.47%	8.19%	6.28%
1991	$16.29	$158.85	10.45%	8.22%	2.23%
1992	$19.09	$149.74	12.37%	7.29%	5.08%
1993	$21.89	$180.88	13.24%	7.17%	6.07%
1994	$30.60	$193.06	16.37%	6.59%	9.78%
1995	$33.96	$215.51	16.62%	7.60%	9.02%
1996	$38.73	$237.08	17.11%	6.18%	10.93%
1997	$39.72	$249.52	16.33%	6.64%	9.69%
1998	$37.71	$266.40	14.62%	5.83%	8.79%
1999	$48.17	$290.68	17.29%	5.57%	11.72%
2000	$50.00	$325.80	16.22%	6.50%	9.72%
2001	$24.69	$338.37	7.43%	5.53%	1.90%
2002	$27.59	$321.72	8.36%	5.59%	2.77%
2003	$48.73	$367.17	14.15%	4.80%	9.35%
2004	$58.55	$414.75	14.98%	5.02%	9.96%
2005	$69.93	$453.06	16.12%	4.69%	11.43%
2006	$81.51	$504.39	17.03%	4.68%	12.35%
2007	$66.17	$529.59	12.80%	4.86%	7.94%
2008	$14.88	$451.37	3.03%	4.45%	-1.42%
2009	$50.97	$513.58	10.56%	3.47%	7.09%
2010	$77.35	$579.14	14.16%	4.25%	9.91%
2011	$86.58	$613.14	14.52%	3.81%	10.71%
2012	$86.51	$666.97	13.52%	2.40%	11.12%
Average			**13.69%**	**7.12%**	**6.60%**

Sources: Standard & Poor's Analysts' Handbook and Morningstar 2013 Yearbook.

Exhibit___(DCP-1)
Schedule 7

PROXY UTILITIES
CAPM COST RATES

COMPANY	RISK-FREE RATE	BETA	RISK PREMIUM	CAPM RATES
Value Line Water Group				
American States Water Co.	3.47%	0.70	5.47%	7.3%
American Water Works	3.47%	0.65	5.47%	7.0%
Aqua America, Inc.	3.47%	0.60	5.47%	6.8%
Artesian Resources	3.47%	0.60	5.47%	6.8%
California Water Service Group	3.47%	0.65	5.47%	7.0%
Connecticut Water Service, Inc.	3.47%	0.75	5.47%	7.6%
Middlesex Water	3.47%	0.70	5.47%	7.3%
SJW Corporation	3.47%	0.85	5.47%	8.1%
York Water Company	3.47%	0.70	5.47%	7.3%
Mean				**7.2%**
Median				**7.3%**

1/ 20-yr T-bond	Month	Rate
	Sep, 2013	3.53%
	Oct., 2013	3.38%
	Nov., 2013	3.50%
		3.47%

Sources: Value Line Investment Survey, Standard & Poor's Analysts' Handbook, Morningstar 2013 Yearbook.

PROXY UTILITIES
RATES OF RETURN ON AVERAGE COMMON EQUITY

COMPANY	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Value Line Water Group													
American States Water Co.	14.0%	11.7%	9.5%	10.0%	10.0%	9.4%	9.5%	10.2%	9.6%	10.5%	9.6%	5.6%	8.0%
American Water Works	10.9%	11.3%	10.8%	11.3%	10.4%	10.5%	10.7%	9.5%	9.5%	9.7%			
Aqua America, Inc.	11.0%	11.4%	11.2%	12.0%	11.8%	12.5%	14.2%	13.8%	13.0%	14.0%	13.9%	12.3%	11.4%
Artesian Resources							9.8%	9.7%	8.1%	9.4%	9.6%	7.4%	7.6%
California Water Service Group	10.4%	12.6%	10.6%	10.0%	12.6%	14.5%	11.0%	11.4%	10.3%	7.5%	9.6%	8.7%	9.8%
Connecticut Water Service, Inc.	12.1%	12.5%	12.6%	12.7%	12.4%	12.3%	12.2%	12.4%	11.8%	13.3%	11.6%	11.2%	11.4%
Middlesex Water	11.7%	12.6%	12.1%	12.0%	10.3%	11.2%	10.7%	10.2%	6.5%	9.0%	9.8%	8.2%	8.3%
SJW Corporation	11.8%	11.8%	9.6%	10.8%	16.2%	12.0%	11.6%	11.1%	9.6%	9.5%	9.4%	9.8%	11.3%
York Water Company	11.9%	12.6%	11.7%	10.7%	11.1%	10.9%	10.3%	10.3%	11.9%	11.5%	16.7%	11.7%	12.2%
Mean	11.7%	12.1%	11.0%	11.2%	11.9%	11.7%	11.1%	11.0%	10.0%	10.5%	11.3%	9.4%	10.0%
Median	11.8%	12.2%	11.0%	11.1%	11.5%	11.6%	10.7%	10.3%	9.6%	9.7%	9.7%	9.3%	10.6%

COMPANY	2005	2006	2007	2008	2009	2010	2011	2012	1992-2001 Average	2002-2008 Average	2009-2012 Average	2013	2014	2016-2018
Value Line Water Group														
American States Water Co.	10.4%	8.2%	9.3%	7.2%	8.8%	9.0%	11.7%	11.8%	10.4%	8.3%	10.3%	12.5%	12.0%	11.5%
American Water Works						9.6%	15.8%	9.9%	10.5%		11.8%	8.0%	8.5%	9.5%
Aqua America, Inc.	11.5%	11.0%	10.0%	9.6%	9.6%	10.9%	11.8%	13.0%	12.5%	11.4%	11.3%	12.0%	12.0%	12.5%
Artesian Resources	8.9%	10.2%	8.5%	7.4%	8.1%	8.2%	6.5%	8.7%	9.3%	8.5%	7.9%			
California Water Service Group	9.3%	7.6%	4.9%	10.1%	7.4%	8.8%	8.5%	9.8%	11.1%	8.6%	8.6%	7.0%	8.0%	9.5%
Connecticut Water Service, Inc.	12.0%	7.5%	8.9%	9.2%	9.7%	8.8%	9.7%	11.2%	12.4%	10.3%	9.9%	9.0%	9.5%	8.5%
Middlesex Water	8.4%	8.6%	8.8%	8.8%	7.0%	9.0%	7.6%	7.5%	10.6%	8.7%	7.8%	8.0%	8.5%	9.0%
SJW Corporation	11.5%	18.2%	8.3%	11.2%	6.0%	9.6%	8.0%	8.6%	11.4%	11.4%	8.1%	8.5%	8.5%	8.5%
York Water Company	11.8%	10.5%	9.7%	9.4%	9.6%	10.0%	9.7%	9.1%	11.3%	11.7%	9.6%	9.5%	10.0%	10.0%
Mean	10.5%	10.2%	8.6%	9.1%	8.3%	9.3%	9.9%	10.0%	**11.1%**	**9.9%**	**9.5%**	**9.3%**	**9.6%**	**9.9%**
Median	11.0%	9.4%	8.9%	9.3%	8.5%	9.0%	9.7%	9.8%	**10.9%**	**9.7%**	**9.2%**	**8.8%**	**9.0%**	**9.5%**

Source: AUS Utility Reports and Value Line Investment Survey.

PROXY UTILITIES
MARKET TO BOOK RATIOS

COMPANY	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	1992-2001 Average	2002-2008 Average	2009-2012 Average
Value Line Water Group																								
American States Water Co.	142%	156%	124%	120%	134%	137%	148%	177%	168%	182%	176%	178%	181%	230%	205%	219%	210%	189%	167%	162%	202%	149%	200%	180%
American Water Works	129%	140%	132%	142%	156%	178%	199%	172%	143%	248%								90%	117%	138%	151%	164%		124%
Aqua America, Inc.	140%	158%	151%	124%	189%	237%	313%	287%	302%	365%	304%	280%	321%	436%	332%	259%	238%	221%	264%	243%	266%	227%	310%	249%
Artesian Resources							156%	168%	149%	183%	159%	207%	214%	215%	198%	150%	117%	150%	154%	131%	145%	164%	180%	145%
California Water Service Group	147%	172%	157%	140%	160%	191%	207%	202%	186%	201%	199%	189%	218%	264%	223%	219%	222%	190%	172%	163%	161%	176%	219%	172%
Connecticut Water Service, Inc.	162%	180%	154%	149%	156%	168%	193%	218%	226%	304%	275%	266%	233%	216%	211%	199%	173%	185%	194%	204%	205%	191%	225%	197%
Middlesex Water	111%	184%	169%	150%	150%	164%	176%	218%	222%	248%	225%	265%	214%	214%	178%	184%	141%	174%	162%	160%	164%	179%	203%	165%
SJW Corporation	147%	172%	157%	140%	160%	191%	207%	202%	186%	201%	199%	189%	218%	284%	307%	236%	175%	203%	167%	166%	172%	176%	227%	177%
York Water Company	169%	174%	87%	197%	195%	226%	198%	174%	154%	184%	277%	335%	275%	367%	309%	266%	190%	203%	235%	234%	229%	176%	288%	225%
Mean	143%	167%	141%	145%	163%	187%	200%	202%	193%	235%	227%	239%	234%	276%	245%	217%	183%	178%	181%	178%	188%	**178%**	**232%**	**181%**
Median	145%	172%	153%	141%	158%	185%	198%	202%	186%	201%	212%	236%	218%	247%	217%	219%	183%	189%	167%	163%	172%	**174%**	**219%**	**173%**

Source: AUS Utility Reports and Value Line Investment Survey.

STANDARD & POOR'S 500 COMPOSITE RETURNS AND MARKET-TO-BOOK RATIOS 1992 - 2012

YEAR	RETURN ON AVERAGE EQUITY	MARKET-TO BOOK RATIO
1992	12.2%	271%
1993	13.2%	272%
1994	16.4%	246%
1995	16.6%	264%
1996	17.1%	299%
1997	16.3%	354%
1998	14.6%	421%
1999	17.3%	481%
2000	16.2%	453%
2001	7.5%	353%
2002	8.4%	296%
2003	14.2%	278%
2004	15.0%	291%
2005	16.1%	278%
2006	17.0%	277%
2007	12.8%	284%
2008	3.3%	224%
2009	10.6%	187%
2010	14.2%	208%
2011	14.6%	208%
2012	13.5%	214%
Averages:		
1992-2001	14.7%	341%
2002-2008	12.4%	275%
2009-2012	13.2%	204%

Source: Standard & Poor's Analyst's Handbook, 2013 edition, page 1.

RISK INDICATORS

GROUP	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FIN STR	S & P STK RANK
S & P's 500 Composite	2.6	1.05	B++	B+
Value Line Water Group	2.4	0.69	B+	A-

Sources: Value Line Investment Survey, Standard & Poor's Stock Guide.

Definitions:

Safety rankings are in a range of 1 to 5, with 1 representing the highest safety or lowest risk.

Beta reflects the variability of a particular stock, relative to the market as a whole. A stock with a beta of 1.0 moves in concert with the market, a stock with a beta below 1.0 is less variable than the market, and a stock with a beta above 1.0 is more variable than the market.

Financial strengths range from C to A++, with the latter representing the highest level.

Common stock rankings range from D to A+, with the latter representing the highest level.

RISK INDICATORS

COMPANY	VALUE LINE SAFETY	VALUE LINE BETA	VALUE LINE FINANCIAL STRENGTH		S& P STOCK RANKING	
Value Line Water Group						
American States Water Co.	2	0.70	A	4.00	A-	3.67
American Water Works	3	0.65	B+	3.33	NR	
Aqua America, Inc.	2	0.60	B++	3.67	A	4.00
Artesian Resources	2	0.60	B	3.00	A-	3.67
California Water Service Group	3	0.65	B++	3.67	A-	3.67
Connecticut Water Service, Inc.	3	0.75	B+	3.33	B+	3.33
Middlesex Water	2	0.70	B++	3.67	A-	3.67
SJW Corporation	3	0.85	B+	3.33	B+	3.33
York Water Company	2	0.70	B+	3.33	A	4.00
Average	2.4	0.69	**B+**	**3.48**	A-	3.67

Sources: Standard & Poor's Stock Guide and Value Line Investment Survey.